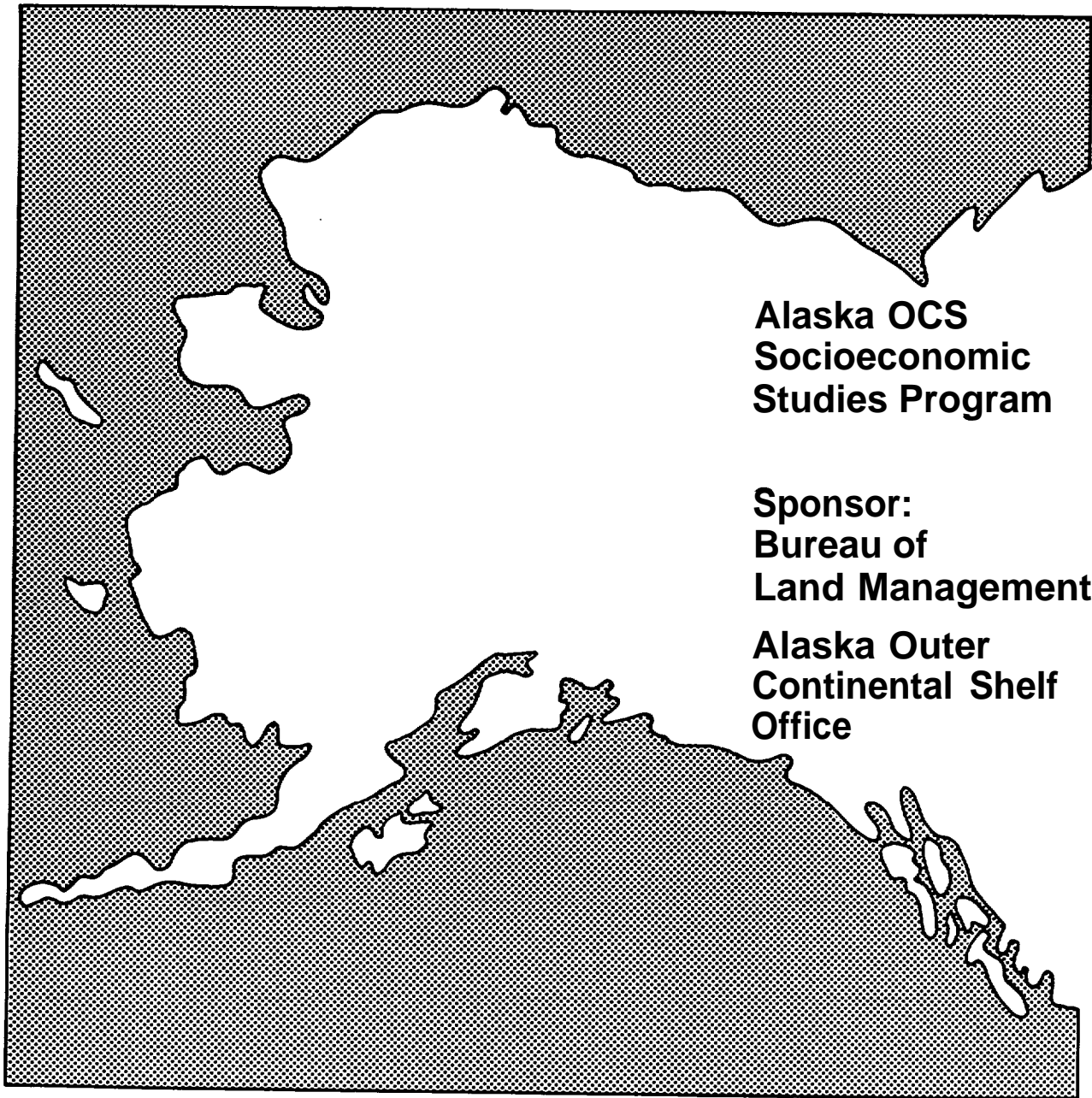


Technical Report
Number 32



**Alaska OCS
Socioeconomic
Studies Program**

**Sponsor:
Bureau of
Land Management
Alaska Outer
Continental Shelf
Office**

Northern and Western Gulf of Alaska
Local Socioeconomic Baseline

The United States Department of the Interior was designated by the Outer Continental Shelf (OCS) Lands Act of 1953 to carry out the majority of the Act's provisions for administering the mineral leasing and development of offshore areas of the United States under federal jurisdiction. Within the Department, the Bureau of Land Management (ELM) has the responsibility to meet requirements of the National Environmental Policy Act of 1969 (NEPA) as well as other legislation and regulations dealing with the effects of offshore development. In Alaska, unique cultural differences and climatic conditions create a need for developing additional socioeconomic and environmental information to improve OCS decision making at all governmental levels. In fulfillment of its federal responsibilities and with an awareness of these additional information needs, the BLM has initiated several investigative programs, one of which is the Alaska OCS Socioeconomic Studies Program.

The Alaska OCS Socioeconomic Studies Program is a multi-year research effort which attempts to predict and evaluate the effects of Alaska OCS Petroleum Development upon the physical, social, and economic environments within the state. The analysis addresses the differing effects among various geographic units: the State of Alaska as a whole, the several regions within which oil and gas development is likely to take place, and within these regions, the various communities.

The overall research method is multidisciplinary in nature and is based on the preparation of three research components. In the first research component, the internal nature, structure, and essential processes of these various geographic units and interactions among them are documented. In the second research component, alternative sets of assumptions regarding the location, nature, and timing of future OCS petroleum development events and related activities are prepared. In the third research component, future oil and gas development events are translated into quantities and forces acting on the various geographic units. The predicted consequences of these events are evaluated in relation to present goals, values, and expectations.

In general, program products are sequentially arranged in accordance with BLM's proposed OCS lease sale schedule, so that information is timely to decision making. In addition to making reports available through the National Technical Information Service, the BLM is providing an information service through the Alaska OCS Office. Inquiries for information should be directed to: Program Coordinator (COAR), Socioeconomic Studies Program, Alaska OCS Office, P. O. Box 1159, Anchorage, Alaska 99510.

ALASKA OCS SOCIOECONOMIC STUDIES PROGRAM

NORTHERN AND WESTERN GULF OF ALASKA
LOCAL SOCIOECONOMIC BASELINE

PREPARED FOR

BUREAU OF LAND MANAGEMENT
ALASKA OUTER CONTINENTAL SHELF OFFICE

MAY 1, 1979

NOTICE

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ALASKA OCS SOCIOECONOMIC STUDIES PROGRAM
NORTHERN AND WESTERN GULF OF ALASKA - LOCAL SOCIOECONOMIC BASELINE

Prepared By
ALASKA CONSULTANTS, INC. for PEAT, MARWICK, MITCHELL & CO.

MAY 1979

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INTRODUCTION

This report is one of several integrated studies with an overall objective of analyzing potential impacts and changes likely to occur at the State, regional and local community levels as a result of proposed OCS oil and gas lease sales in the Northern and Western Gulf of Alaska. Included in this particular report is a review of existing population and economic conditions in Yakutat, Cordova, Seward and Kodiak; an overview of land use patterns, land tenure and housing conditions in and around these communities; an outline of specified community facilities and utilities services; plus a review of local government powers and the financial condition of each community. In addition, an analysis of social conditions affecting Yakutat is offered.

From the above data, potential impacts on population, employment, housing, selected community facilities and utilities, and the financial condition of these communities will be estimated in both a non-OCS and several OCS cases. In order to develop realistic standards with which to project potential impacts, the existing situations in the four communities under study had to be examined in considerable detail. This is particularly true of the sector analyses conducted for each community since future growth in employment and population is the foundation upon which all other projections of community needs rest.

The information presented in this report has been derived from a wide variety of sources, supplemented by informal interviews with people in

government and industry in all four communities under study. Factual data contained in this report is current as of August 1978 except where specifically noted.

CITY OF YAKUTAT

Social Characteristics

TRADITIONAL SYSTEMS AND VALUES

Except for the Eyak Indians of the Copper River Delta area near Cordova and In' and Tlingits of the Atlin, Teslin and Tagish areas of British Columbia and the Yukon Territory, the Native people of the Yakutat area represent the northernmost extension of the Northwest Coast culture.

Although the culture of the Natives of Yakutat is now Tlingit, it has not always been so. The indigenous population of Yakutat Bay was originally Eyak or Dry Bay Athabaskan, but in prehistoric times these people were submerged by coastal Eyaks mixed with a migration of Atrial Athabascans from the middle Copper River area. To the south, were residents of Lituya Bay and Dry Bay whose inhabitants were originally Athabaskan but became mixed with Tlingit from Chilkat and the southeast coast, while to the north were the Eyak in the vicinity of Copper River.

These people intermarried, visited, traded and entertained each other at potlatches and generally felt interrelated although those on the eastern and western extremes of the Gulf spoke different languages and had somewhat different cultures. Gradually, however, the southern coastal culture spread northward and the Gulf coast people became "Tlingitized". This process was already far advanced by the time of the first contact with Europeans and continued on into the 19th century. Nevertheless,

the culture of the **Yakutat** has always been somewhat marginal to the classic **Tlingit**. Today, **Yakutat** is the only permanent community left on the Alaskan Gulf coast and it contains cultural traces and traditions derived from diverse tribes whose remnants have collected there.

While the term "tribe" is commonly used to describe Indian political and social organization, this is technically inexact when applied to the **Tlingit**. The **Tlingit** historically had no overall chief or other political body to govern them. The real units of **Tlingit** society were **matrilineal** moieties and clans, the localized intermarrying branches of which made up geographical communities. Thus, while the inhabitants of the Gulf Coast region were to some extent united by feelings of local pride, sociability and affinity, the typical sense of community identity took second place to the commitment of members of each clan for their own kin group.

Tlingits were divided into two phratries or moieties, one called Eagle and the other Raven. Each of these was in turn divided into a number of clans, in which membership descended through the mother. Each clan had its own distinctive name, traditions, and crest handed down from one generation to another. Marriage within the clan or moiety was forbidden, thus a **local** clan had to associate with another local clan from the opposite moiety.

Villages consisted of a number of **large** houses, each sheltering the several families which comprised the clan. Central to the organization

of the houses were the men, usually close relatives. The highest ranking man was chief. Similarly, within the village was a highest ranking house, and its chief was recognized as the highest ranking local clan chief.

Houses symbolized for their inhabitants the whole social order, their place in lineage and the clan and their family ties with those of the opposite moiety. Within the house, families were classed socially according to their relationship to the chief. Lowest on the social ladder were slaves captured during wars with other tribes. House names usually referred to a lineage or clan crest and recalled the days of ancestors who had secured the emblem which, in turn, linked the maternal line of their descendants with the order of nature (de Laguna, 1972).

Just as it was the important social unit for the Tlingit, the clan was also the entity vested with political control and authority (United States Federal Field Committee for Development Planning in Alaska, 1968):

"It was the primary property claiming or owning group or entity. It held claims to well-defined hunting, fish and gathering areas. Clan property included the fishing streams, the coastal waters and shore, the hunting grounds, the berrying areas, the sealing rocks, the house sites in the villages, and the rights to the passes into the interior. Hunting grounds usually consisted of the watersheds of the streams or rivers. The protection of these resources was a local clan matter.

Each house group of the local clan was vested with the right to exploit certain defined clan areas, the chief of the local clan being generally responsible for the administration of all of the property. Thus, tracts of local clan territory were parceled out or assigned to individual house groups for exploitation. It was the chief of the local clan, assisted by the other house chief elders of the clan, all of whom formed a "council", who controlled the clan's affairs. "

For their livelihood, Yakutat Indians depended upon the rich natural resources of the area. Although, fish (primarily salmon) provided the principal food resource; sea mammals, including the whale, shellfish, seaweed, a variety of land animals, birds and berries and plants were also important food sources. Natural resources also provided the materials on which the **Tlingit** trading economy was based. The Yakutat traded with the Eyak to the north from whom they obtained copper for hunting implements and through them with the **Chugach** Eskimos, their traditional enemy. However, most trade was conducted with **Tlingits** and **Haidas** to the south.

Rich natural resources enabled the Yakutat Indians to be virtually self-sufficient. The primary motive for trade, according to de Laguna, was the acquisition of wealth in the form of luxury goods for lavish distribution, to feast relatives and guests, to make presents to kinsmen⁴ and to pay at potlatches for ceremonial services rendered. Worth was proven by the extent of giving, although certainly the giver anticipated that the giving would be returned in kind at some future date. Wealth was always exchanged between peers, and only with low class Indians (and whites) who could not contribute to prestige was it possible to have strictly business dealings for profit.

EVOLUTION OF YAKUTAT AS A MODERN COMMUNITY

The evolution of Yakutat as a modern community began with visits by European explorers in the **latter** part of the 18th century, although for many years **Yakutat's** relative isolation from the rest of the world kept

white influence at a minimum. At first encounters between Europeans and Indians were for the most part friendly, but open hostility threatened if contact were prolonged. In 1786, La Perouse noted that the Yakutat Indians appeared well accustomed to traffic and trading and were particularly anxious to acquire iron for knives and other implements. They found the Gulf Coast Natives quite thoroughly "Tlingitized", however, their Eyak origins were distinguishable in their language, and the labret or lip ornament worn by southern Tlingit women was not prevalent in the Yakutat area. Furthermore, Yakutat Indians were observed to hunt whales for food which was considered taboo by southern Tlingits.

Bargaining was a highly developed art which de Laguna attributes to Athabascan influences and pilfering was a serious problem, reflecting the Tlingit's basic attitude to the white man: He was not a peer, but rather of a lower class and, therefore, to be taken advantage of whenever possible. When first encountered, Yakutat Indians were dressed entirely in furs, but very quickly white man's clothing obtained in trade began to show up in their apparel, and Indian households soon contained western cooking equipment.

The direct effect of the first contact with Europeans was minimal, but the discovery and subsequent publication of the existence of rich sea otter grounds in the Yakutat area ultimately led to a Russian "invasion". A Russian post was established between the Ankau River and the Gulf of Alaska coast. Relations between the two groups were tense from the beginning. Indians resented Russian attempts to educate their children

and take away their women. Additional Indian grievances included the failure of the Russians to pay for the land they occupied. From the perspective of the Indians, their rights to the land extended to exclusive use over many resources (fresh water, driftwood, fish, animals and plants) which Europeans would consider free. When not paid for the use of these, the Indians **stole** to obtain remuneration. Although the Tlingit were familiar with the owner/slave relationship, they did not have any concept of the relationship between ruler and subject, a concept which dominated Russian relations with the Alaska Natives.

Sitka **Tlingits** rose against the Russians in 1802 and the **Yakutats** followed suit in 1805. The Russians were successful in re-establishing their presence in Sitka, but **henceforward** maintained a careful distance from the Gulf of Alaska Natives. Few Europeans ventured onshore at **Yakutat** for many years following the fall of the Russian settlement and further information until the end of the century is meager. **Tlingits** to the south were vaccinated for smallpox and converted to Christianity, but Yakutat Indians received neither service. In fact, a major smallpox epidemic which took the lives of hundreds in the Gulf Coast area went almost unnoticed by the outside world. As late as 1880, according to the first U.S. Census, there were still no white men living in the Yakutat area, with **local** Indians still obtaining items through trade with the southern **Tlingit**.

Yakutat's isolation was finally penetrated in the 1880's. Trading schooners made regular stops there, and a store was established in 1884.

Gold prospectors came and went, but some stayed and took Indian wives.

Expeditions climbing Mount St. Elias stopped at Yakutat to hire Indian guides and bearers and tourists visited to purchase the famous Tlingit baskets. By 1884, Yakutat Indians were no longer considered thieves or potential murderers, but Abercrombie estimated that they were the only coastal tribe from whom trouble might be expected, nor did they, in his eyes, appear particularly well disposed to whites. Abercrombie noted some degree of acculturation. No lip ornaments were evident and some clothing was being purchased from the trading post. By 1887, local Indians were distilling "the vile spirit" and were noted to be frequently drunk. (de Laguna, 1972).

The arrival of missionaries in 1887 brought substantial change in the Yakutat culture. The mission school produced interpreters, thus encouraging communication with the white population and visitors. The mission also encouraged settlement in one centralized location, and thus began the consolidation of the Gulf Coast peoples at Yakutat.

It was not long before the pressure of white influence had seriously undermined the traditional Tlingit social and political institutions. Potlatches were ridiculed as extravagant and disruptive to school, while Tlingit art was belittled as grotesque. Missionaries condemned ceremonial display as heathen and preached against intermarriage among relatives. Together, government administrators, educators and ministers attempted to lessen the importance of the clans because interclan rivalry led to so many serious quarrels.

At the turn of the century, most **Yakutat** Indians still lived in clan houses, but the more acculturated and younger Indians were beginning to move into smaller, individual homes. The establishment of a cannery at **Yakutat** further encouraged this trend. Most families moved to locations near the cannery by 1919 and built permanent individual homes there. Few **community** houses survived the move. The fishing industry also introduced a cash economy to **Yakutat**. This meant a great change in the relative wealth and, therefore, status of different **families**. Some formerly poor families were now able to **potlatch** and **distinctions** of rank became blurred. The move away from the clan houses further undermined the power and authority of clan and house chiefs. The progress of time has served to further erode the cu"lture.

With the exception of a temporary **influx** of a large military population during World War II, life in **Yakutat** remained stable and reasonably prosperous until the 1950's. At that time, a depletion of the fishery resources resulted in a major economic decline. Population dropped substantially as a result of an **outmigration** of young people in search of economic and educational opportunity and many of those left behind existed on welfare of various types or subsistence hunting and fishing.

As is mentioned in subsequent sections of this report, improved economic conditions have since 1970 caused substantial growth in **Yakutat**. The re-establishment of the local fishing and fish processing industry, the settlement of Alaska Native claims and improved housing and community facilities have brought many former residents back to **Yakutat** and economic opportunities have also drawn new residents to the area.

On the surface, Yakutat today is no longer a traditional Tlingit village. It was incorporated as a city under Alaska law in 1948 and its local government has all the powers permitted for municipalities of the first class. However, local organization is not new to Yakutat. The Alaska Native Brotherhood (ANB), founded in 1912, exerted a profound influence over the development of most Southeast Alaska Tlingit communities, and Yakutat's ANB camp dates back to 1921. The local Tlingit and Haida Council chapter created as a result of the Tlingit-Haida Settlement remains active today. More recently, the Yak-Tat Kwaan, Inc., the local village corporation created under the terms of the Alaska Native Claims Settlement Act of 1971, has had a major impact on Yakutat. Membership in the Kwaan is limited to Alaska Natives claiming Yakutat as their home village. The lands to which the Kwaan is entitled under this Act will ensure that the community's Native residents will have the opportunity to exert a good deal of control over development in their area, something that was not always possible after whites first settled here.

THE SOCIAL STRUCTURE

Yakutat's social structure has undergone profound change over the years. A significant proportion of Yakutat's population is now white and interaction between the two cultures has produced a distinctive local culture in which traditional values remain strong. A definition of these values can be obtained from a detailed socio-economic survey of Yakutat conducted by Alaska Consultants, Inc. in March 1975. The survey was funded through the Alaska Federation of Natives and was felt by the

City of **Yakutat** to be needed to identify those elements of **Yakutat's** culture and social structure which were most important to community residents at a time of imminent social and economic change, i.e. shortly before the April 1976 Northern **Gulf of Alaska** outer continental shelf oil and gas lease sale. While some of the survey findings are more appropriately addressed in other sections of this report, those relating to **Yakutat's** social structure and culture are described in the following pages.

Migration and Sense of Community

Despite substantial population declines in the post war years and recent population growth through in-migration, **Yakutat** is still a remarkably closely knit and stable community. Although close to two-thirds of the **people** interviewed had moved to **Yakutat** from another community, nearly a fifth of these had returned to **Yakutat** because it was their home town. Furthermore, almost three-quarters of the respondents indicated that they intended to remain in **Yakutat** permanently or indefinitely. The relative location of housing gives a strong indication of the small, closely knit character of **Yakutat** today. When asked the extent to which they lived next to relatives, **almost** half of those interviewed had a relative in one of the four houses closest to their own. Although such a housing relationship was much more prevalent among Indians than whites, nearly 20 percent of the latter group also lived close to relatives.

Of those who had moved to Yakutat, employment was the major incentive followed by the opportunity for small town living which this community affords. Employment and small community living were the most prevalent reasons for whites, while home town was primarily a Tlingit response. Understandably, most of those who had moved to the community were white.

Small community living was obviously important to the people surveyed, particularly to whites. It was listed by about 40 percent of those interviewed as being the best reason for remaining in Yakutat and as being the best thing about the town. However, a home town identity was the main reason given by Tlingits for remaining in Yakutat. Hunting and fishing opportunities and the natural setting of Yakutat were also listed often as being the best things about the community. Hunting and fishing was primarily a male response, while the natural setting was more important to Tlingits than whites. The importance of the natural environment to the community's Indian population reflects the traditional close relationship of the Tlingit to the land.

Culture

In listing the three or four things that were most important to them in the culture of the Yakutat area, most people, regardless of race, identified elements of traditional Tlingit culture. Native arts and crafts were listed the most often, followed by the Tlingit language, subsistence pursuits, traditional dancing, and general lifestyle and customs. Over two-thirds of the people interviewed indicated that they

feared the loss of the present **Yakutat** culture. Reflecting this fear, half of the people surveyed indicated that they were not in favor of **Tlingits** becoming an ethnic minority in **Yakutat**. Whites were against this happening in the belief that it would cause **Tlingits** to lose their cultural identity. More significantly, **Tlingits** felt that if they were to become a minority, they would lose their controlling voice in community affairs.

Traditional values remained important to many **Yakutat** residents. A majority of the respondents felt that Indian traditions still have a place in today's life and that the teaching of the **Tlingit** language in the **Yakutat** schools is essential to maintain and enhance the local culture. Since the survey, a limited **Tlingit** language program has been incorporated into the school program.

However, in 1975, people also believed that the traditional **Tlingit** culture was less important in community life than it once was. This was indicated by the fact that a majority of people believed that pride in the old ways was **disappearing**; that the division of the **Tlingit** nation into Eagles and Ravens was no longer as important as it had been in the past; and that family ties were less strong today. Nevertheless, these views were resisted by close to half of the **Tlingits** interviewed. Although relatively few **Yakutat** Indians under 40 years of age speak fluent **Tlingit**, it is apparent that the Alaska Native Claims Settlement Act has engendered a strong feeling of pride in traditional **Tlingit** culture and a desire to learn more about it on the part of younger adults in the community.

Growth

Half of the people interviewed indicated that they favored community growth, with 40 percent preferring that Yakutat's population remain at about current levels. This was not an endorsement of unlimited growth, however, as a majority of those who wanted Yakutat to grow preferred that the community's population remain below 2,000. Most people surveyed were either opposed to or had mixed feelings about large scale industrial growth. Loss of the existing culture of the Yakutat area was one factor in the negative attitudes of both Indians and whites, while almost all people surveyed believed that race relations in Yakutat would deteriorate under conditions of a rapid rise in population. Environmental degradation and disruption of subsistence activities were also seen as potential growth related problems. On the other hand, those favoring large scale growth cited employment opportunities as their main reason for doing so.

When asked about the type of industrial growth which would be most compatible with existing life styles, people generally responded that an industrial mix already in existence, the fisheries industry and subsistence hunting and fishing, was the most compatible. Eighty-six percent rated the fishing industry and subsistence activities as being mutually compatible, while the tourism and recreation industry was considered compatible with subsistence activities by 72 percent of those interviewed. In addition, the fisheries industry was considered to be compatible with tourism and recreation by 68 percent.

The forest products industry, an industry which virtually all Yakutat residents have had an opportunity to observe, was rated at an intermediate level of compatibility. At the lowest range of compatibility was the oil and gas industry which was viewed as being basically incompatible with subsistence activities and the fisheries industry. Of perhaps equal importance, however, a high proportion of people apparently felt that they knew too little about the oil and gas industry to judge its relative compatibility. For example, although 38 percent of those interviewed felt fishing and oil and gas development to be incompatible, 30 percent indicated that they did not know whether they were compatible or not. Interestingly enough, 68 percent of those interviewed felt that Yakutat was not prepared to handle large onshore oil and gas development and nearly three-quarters of the respondents favored the City's annexing land so as to better control new development. The latter has since become a reality.

In general, the groups favoring the various industrial mixes included more males than females, more whites than Indians, more people from outside the City than within and those who wanted Yakutat to grow.

While survey respondents anticipated a number of negative aspects associated with growth, they tended to be somewhat inconsistent since they also desired amenities in Yakutat not normally associated with Alaskan communities of less than 1,000 population. This was particularly true in the area of health care where most people considered the addition of a practicing doctor, a practicing dentist and a hospital in Yakutat

to be very important. The addition of a bank, a swimming pool and a large general merchandise store were also rated as very important by close to half of the people surveyed and half or more considered the addition of a community college, a beauty and/or barber shop, a hardware and building supply business, a drug store, a radio station, a TV station and a local newspaper to be at least important additions to the community. It should be pointed out that since the time of the 1975 survey, several of these perceived needs have subsequently been met or are planned to be added. A bank and TV station are now in existence, the latter being run by high school students, a swimming pool is scheduled for completion as part of the new elementary school in December 1978 and a radio station is planned in the near future.

SOCIAL CONFLICT AND CHANGE

The 1975 Yakutat socio-economic survey identified three main community problems involving social interaction - excessive use of alcohol, the lack of social activities, and interracial difficulties. The first of these, alcohol, has been a problem throughout Alaska since the introduction of hard liquor in a convenient form by white traders in the 19th century. Nor is alcohol abuse by any means an exclusively Native problem. That alcohol is a problem today in Yakutat is reflected in the fact that drinking was cited by 14 percent of those interviewed as Yakutat's most serious problem. While this is not an excessively high percentage in absolute terms, drinking was identified more often than any other social problem. Whether or not alcohol abuse is more prevalent in the Indian

population cannot be determined from the survey findings, although six of the seven people identifying drinking as Yakutat's most serious problem were Indian.

Alcohol abuse statistics on a community basis are extremely difficult to develop. State data are developed on either a Mental Health District, Census Division or regional basis, and all three of these include a number of other communities as well as Yakutat. According to data developed by the Alaska Department of Health and Social Services, the frequency of violent deaths resulting from alcoholism was higher in Southeast Alaska in 1975 and 1976 than it was Statewide, however, it is impossible to determine just how many of these occurred in Yakutat. According to the director of the Yakutat Health Center, the one murder in Yakutat in the past year could be attributed to alcohol abuse but, as she has been in the community for only two years, she could not comment on the frequency of alcohol related violent deaths in years past.

The only local statistics on alcohol and drug abuse are those developed by the State trooper, but these also have limitations as they cover only the months of April to July, 1978. During this four-month period, 58 percent of the Part II offenses (the so-called "lesser" crimes) reported by the State trooper involved drugs or alcohol. These involved driving while intoxicated (3 cases), drunkenness and disorderly conduct (7 cases), and one narcotic drug violation (see Table 1).

TABLE 1

STATE TROOPER ACTIVITIES
YAKUTAT ROAD-CONNECTED AREA
APRIL 1978 - AUGUST 1978

	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August a/</u>	<u>Total</u>
<u>Part I Offenses</u>						
Larceny	3	3	1	4	1	12
Burglary		1	1	3	1	6
Aggravated Assault		1	-	1		2
Motor Vehicle Theft		1	-	2		3
<u>Part II Offenses</u>						
Driving While Intoxicated	1	1	-	1		3
Other Traffic Offenses	1	-	-	-	1	2
Vandalism		1	-	1		2
Liquor Laws		1	-	1		2
Drunkenness & Disorderly Conduct			-	7		7
Narcotic Drug Violation			-	1		1
Other Offenses			1		1	2
<u>Other Activities</u>						
Accidents	1	1	-	4		6
Missing Persons	1		1	1		3
Emergency Messages	1	1	-	1		3
Lost & Found	1	1	-			2
Other	2	3	1	2		8
<u>TOTAL</u>	<u>11</u>	<u>15</u>	<u>5</u>	<u>29</u>	<u>4</u>	<u>64</u>

a/ Through August 13, 1978.

Source: Alaska Department of Public Safety, Division of Alaska State Troopers, B Detachment.

From the perspective of the Director of the Yakutat Health Center, alcohol and drugs are the community's most serious health problem although it is her opinion that Yakutat is not untypical of other Southeastern towns of a similar size. Almost all major accidental injuries are alcohol or drug related and a high percentage of mental health problems are also attributable to liquor or drugs. However, State Division of Mental Health statistics indicate that admissions to the Alaska Psychiatric Institute (API) from District 20 (Douglas, Haines, Hoonah, Juneau, Skagway and Yakutat) averaged 1.6 per 1,000 persons which is less than the FY 1977 Statewide average of 1.9 admissions per 1,000 persons. There were no API admissions from Yakutat in 1977, but as of September there had been one during 1978, and there were 2 admissions during 1976.

There have been several suicides in Yakutat in recent years, all reportedly involving alcohol, plus a number of suicide attempts involving both drugs and alcohol. In the Southeast region as a whole, however, the incidence of suicide is generally lower than in the State as a whole. Over the past several years, the Health Center Director has also noted an increase in child abuse and child welfare cases related to alcohol abuse, although there are no data immediately available to support this opinion.

While the causes of alcohol and drug abuse in small communities such as Yakutat are many and complex, one often cited contributing factor is boredom and the lack of alternative social activities. According to a March 1975 socio-economic survey conducted in Yakutat by Alaska Consultants,

the lack of social activities was perceived as a serious problem by 12 percent of the people interviewed, thus making it the second most serious "social" problem. The lack of social activities was identified as a problem by more Indians than whites and by those living inside Yakutat rather than outside town. This probably results in part from the apparent preference of many Indians for recreational pursuits requiring formal facilities (dancing, basketball, movies), whereas white persons tended to prefer outdoor recreation activities such as walking, skiing (both cross country and downhill) and snowmobiling which do not require formal facilities.

When presented with the statement that "The world outside Yakutat is far more attractive, interesting and exciting than the community of Yakutat", 36 percent of those interviewed, about half of whom were Indian, thought that this was at least somewhat true. Furthermore, when respondents were asked to surmise where their neighbors would move if they left town, almost half (46 percent) believed they would be going to Anchorage rather than to some other Southeastern community or Outside. This was a Indian response by a margin of 2 to 1. More than a proportionate share of Indians also believed that young people would have more opportunity for a better life if they left Yakutat.

The addition of a swimming pool and a second gymnasium in the new elementary school scheduled for completion in December 1978 will permit a broader range of social activities. So, too, will the planned conversion of the present city hall into a community recreation center as scheduled in Yakutat's September 1978 capital improvements program.

As has been mentioned previously, relations between Indians and whites have at times in the past been tense. Although not serious today, some problems in race relations persist. While only one white person interviewed in March 1975 thought that there was a lot of difficulty in living and working around Indian people generally and only one Tlingit expressed the same view about living and working around whites, about half of both the Indians and whites surveyed believed that living and working around each other involved at least some difficulties. However, the degree of difficulty was perceived to be greatest with whites or Indians who had only recently moved to the Yakutat area.

In the recent past, the question of development versus non-development has served to underline racial differences. Thus, the 1975 survey found that whites living outside the City generally favored the establishment of the timber and oil and gas industries at Yakutat, while those (predominantly Indians) living inside the City viewed these industries as being basically incompatible with commercial fishing and subsistence pursuits. Moreover, 68 percent of those responding felt that Yakutat was unprepared to handle large scale development. However, despite this seemingly negative attitude about development, 42 percent of those interviewed felt that they could fit into such development through employment.

According to the chairperson of the Yakutat planning commission, many local Indians feel that whites favoring development are in Yakutat primarily for personal economic advancement and favor "development

society" values rather than those more traditional values favored by Yakutat Tlingits. However, the same person felt that interracial antipathy has calmed down recently, probably because the degree of disruption anticipated from the Gulf of Alaska lease sale did not occur. In part, this was undoubtedly due to the close cooperation between the industry and the City which minimized onshore demands during the initial exploration phase of offshore activities. The lack of success in locating oil or gas offshore from Yakutat subsequently lowered expectations for growth held by some segments of the community.

There appeared to be a conflict in the minds of many people surveyed in 1975 between the values normally equated with commercial success and traditional customs. Views expressed by a majority of those interviewed which tended to conform to the prevailing national work ethic included the belief that education is the key to success. Reflecting this view, Yakutat's Tlingit leadership has insisted upon the establishment of a good community school system, and this has produced more than its share of prominent graduates. Nevertheless, Yakutat school officials report that the formal education process is sometimes in conflict with traditional family activities. This is evidenced in a high degree of school absenteeism in September when the silver salmon are running and when entire families are involved in traditional fishing pursuits. Some Indian children reportedly do not attend school at all during this period.

Further evidence of the conflict in peoples' minds between commercial and traditional values is evidenced by the fact that a majority of those interviewed in March 1975 felt that it is at least important to find a special line of work in order to succeed; that there is never enough time to get all the things done that have to be done; and the belief that people have the ability to make their lives exactly the way they wish. In addition, a majority believed that people were becoming increasingly interested in money.

Perceived difficulties in race relations may result partly from a lack of understanding by whites of the strong family ties which bind Tlingit families and from some intolerance by Tlingits toward the competitive nature of many whites and their use of time. This was reflected in the fact that Indians believed to a much greater extent than whites that family ties are as strong as in the past; that pride in the old ways, although diminished, still exists; and that family life has not deteriorated. On the other hand, whites tended to discount the effects of competition on interpersonal relationships to a much greater extent than Tlingits and all whites believed that there was never enough time to do all the things that had to be done.

Although the preceding discussion has focused primarily on negative impacts, there have in recent years been many positive developments in Yakutat as well. Yakutat Tlingits provided strong support and leadership in the effort to secure an Alaska Native claims settlement, and the resulting legislation is a deep source of pride to most Indian residents

of the community. Representatives of Yakutat's Tlingit community have held or continue to hold leadership positions in the State administration, the Sealaska Corporation, the Alaska Federation of Natives and with Statewide programs maintained by State and federal funds, thus enabling them to exert a degree of influence not otherwise possible.

As has been mentioned elsewhere in this report, the Claims Act will enable the Yak-Tat Kwaan to exercise substantial control over lands in the immediate vicinity of Yakutat. Similarly, the land which the Kwaan will turn over to the City, plus lands which the City will receive from the State, will ensure that this local government will continue to have a strong voice in future community development. Active cooperation and planning on the part of the oil industry and the City in connection with onshore development to support Gulf of Alaska exploration following the 1976 OCS lease sale minimized disruption and maximized economic return to the local community and could serve as a model for handling industrial development here in the future.

Population and Economy

POPULATION

Past Trends

Although Yakutat is a predominantly Native community, this was not a traditional Tlingit village site. The "Old Village" of Yakutat dates

from about 1889 when the Swedish Free Mission was established there. Subsequently, around 1919, most families moved to what is now the main part of town to be closer to a cannery which began operations in 1904.

Between the beginning of the century until 1950, Yakutat's population increased gradually except for a decline recorded between 1910 and 1920. Between 1900 and 1950, Yakutat's population rose 20.6 percent, a rate comparable to the 25.8 percent growth of Southeast Alaska's Native population recorded during the same period.

Between 1950 and 1970, Yakutat population went through a period of major decline (see Table 2). During this period, the community lost more than one-third of its people, primarily due to an outmigration of young adults as opportunities in the local fishing and fish processing industry became more limited.

Since 1970, however, the period of population decline has been reversed. The 1970 Census counted 190 people living within Yakutat's corporate boundaries whereas Alaska Consultants estimated that 405 persons lived in the City in 1977. Much of this apparent 113.2 percent gain, however, is misleading as Yakutat's corporate boundaries were enlarged effective March 4, 1976. The new corporate limits take in a 20.7 square kilometer (8 square mile) area and have had the effect of adding approximately 130 people to the City's population. If these people are excluded, Yakutat's population rose by a much smaller 14.5 percent between 1970 and 1977.

TABLE 2
POPULATION TRENDS
YAKUTAT, ALASKA a/
1950 - 1978

<u>Year</u>	<u>Populati on</u>	<u>Percent Change</u>
1950	2 9 8	---
1960	230	- 22.8
1970	190	- 17.4
1977	405 <u>b/</u>	113.2

a/ Population for City of Yakutat only for 1970 and 1977 (and possibly also for 1950 and 1960). Yakutat areawide population in 1971 was estimated at 350 by the Alaska State Housing Authority. Alaska Consultants estimated an areawide population of 565 in 1977.

b/ Includes areas annexed to the City of Yakutat effective March 4, 1976. Using the 1977 community average of 3.4 persons per household, the City's population increased by approximately 130 persons as a result of this annexation.

Sources: U.S. Department of Commerce, Bureau of the Census. 1960.
U.S. Census of Population: 1960, Number of Inhabitants, Alaska.
Final Report PC(1)-3A. Washington, D.C., U.S. Government
Printing Office.

U.S. Department of Commerce, Bureau of the Census. 1971.
U.S. Census of Population: 1970, Number of Inhabitants, Final
Report PC(1)-A3, Alaska. Washington, D.C., U.S. Government
Printing Office.

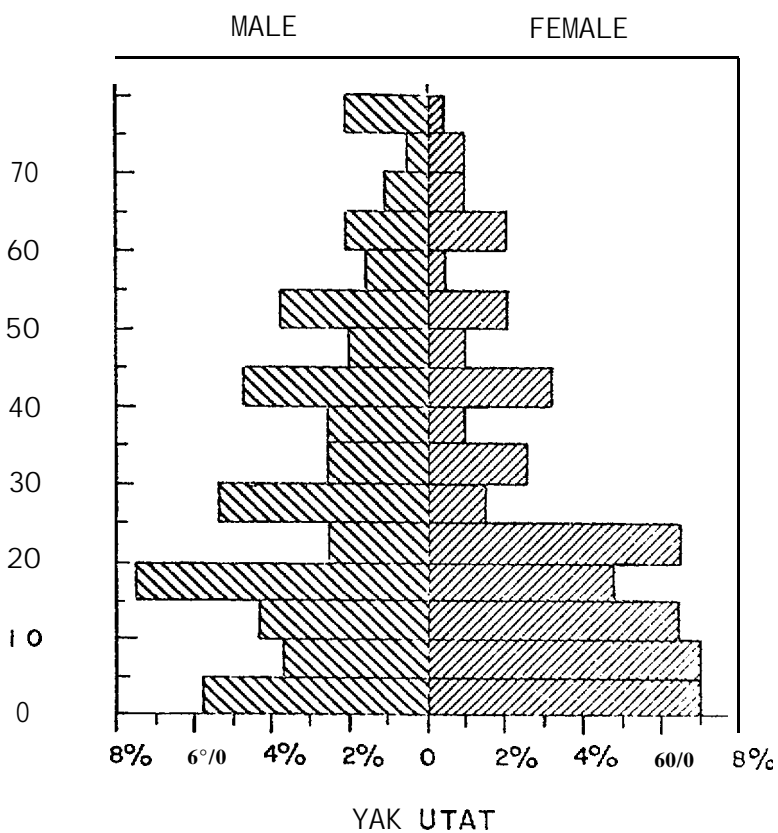
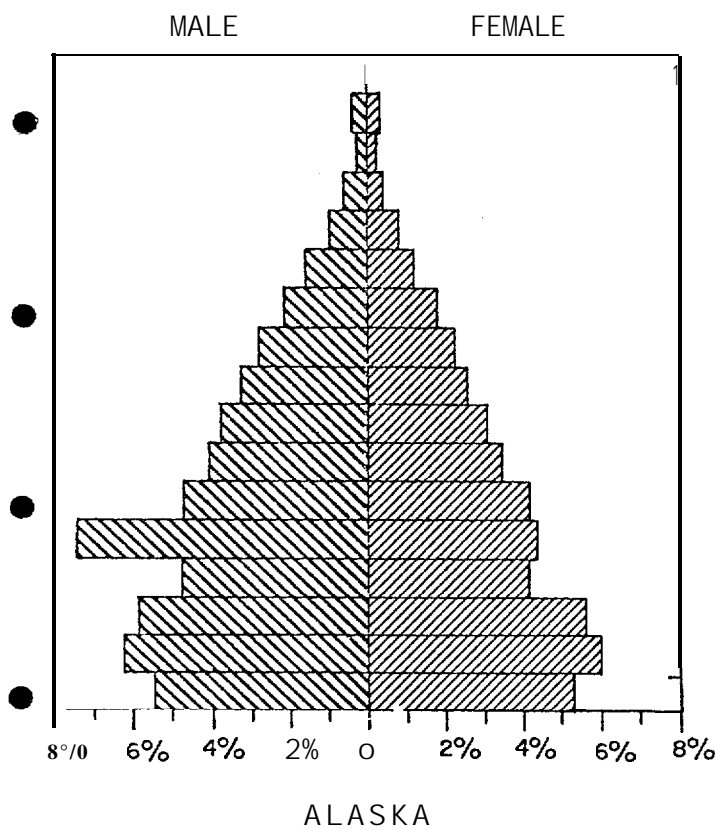
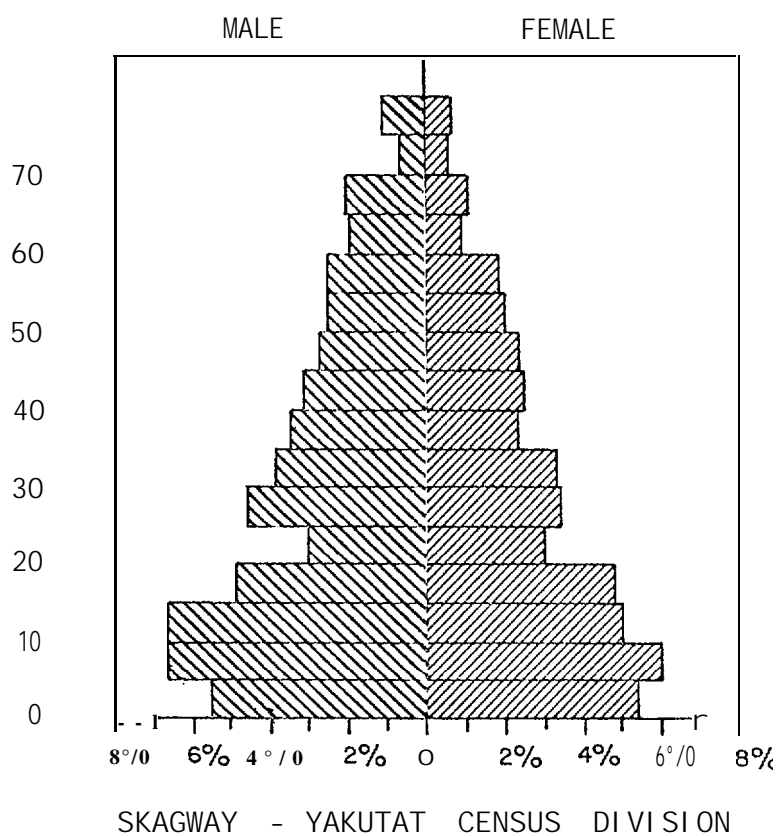
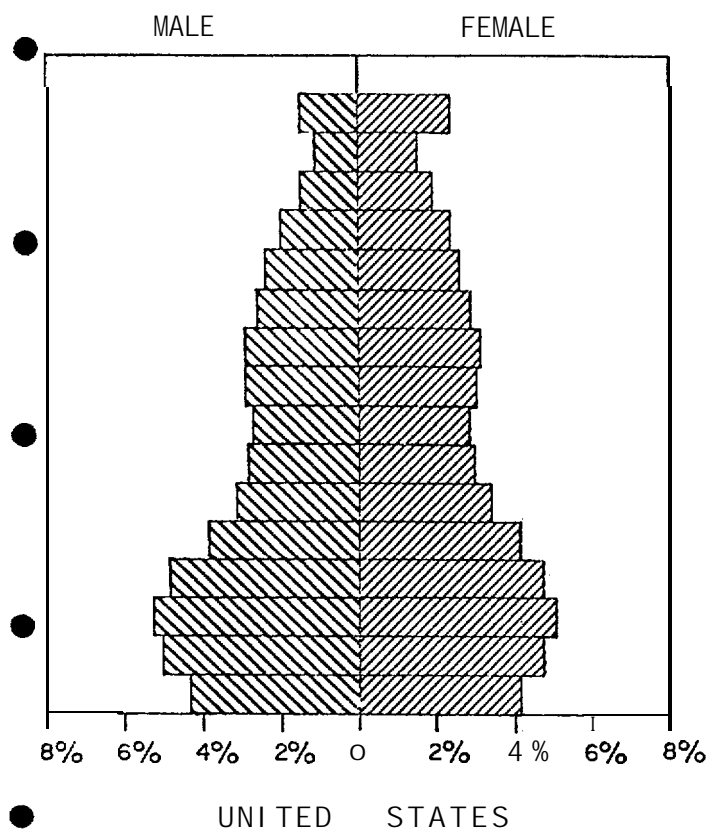
Alaska Consultants, Inc. September 1978. City of Yakutat,
Capital Improvements and Services Program. Anchorage.

The population of the Yakutat road-connected area as a whole has grown at a faster rate than that within the old City limits. According to the Alaska State Housing Authority (September 1971), approximately 350 people lived in the Yakutat road-connected area in 1971. Alaska Consultants estimated a total area population of 465 in 1977, representing a 64 percent increase over the 1971 estimate. The largest share of these out of town residents are whites living on airport property.

The re-establishment of the local fishing and fish processing industry, improved housing conditions and upgraded community facilities have served to attract many former residents back to Yakutat, while improved economic conditions have also drawn new residents to the area. Oil and gas-related exploration activities in the northern Gulf of Alaska which got underway in 1976 also brought a temporary influx of transient workers through the community. However, this activity has now essentially ceased.

Population Composition

The outstanding feature of Yakutat's population is that it is predominantly Tlingit Indian. At the time of the 1970 Census, approximately 82 percent of the people living within Yakutat's corporate limits were Alaska Natives, almost all of whom were Tlingits. A locally conducted census in 1975 found that the proportion of Natives within the City had dropped to 74.4 percent, but they remain the dominant ethnic group. In the Yakutat road-connected area, however, the total number of Indians and



COMPOSITION OF POPULATION

Source: U. S. Census, 1970

whites is probably now about the same since most people living outside town are white.

A review of the age and sex characteristics of the City of Yakutat's 1970 population reveals that the community reflects some peculiarly Alaskan characteristics', while in other respects it is closer to national than State norms (see Figure 1). Males outnumber females and there is a disproportionately large number of people in the very young age groups. On the other hand, the community has a higher proportion of people in the older age ranges than does the State.

Yakutat's 1970 ratio of 52 males for every 48 females was less extreme than the State's 54 percent male to 46 percent female ratio but was unlike the nation as a whole where females' outnumbered males by a 51 to a 49 percent margin. A higher proportion of Yakutat's 1970 population was in the under 5 age range (almost 13 percent) than the State (11 percent) and national (8.4 percent) averages, a characteristic of most predominantly Alaska Native communities. However, unlike the State where persons aged 65 or more accounted for only 2.2 percent of the total population, 6.3 percent of Yakutat's population was within this older age range, closer to the 1970 national average (9.8 percent).

Growth Prospects

Unlike many traditional Alaska Native communities, Yakutat's prospects for continued growth based on sound economic development appear good.

Potential sources of this growth include fishing and fish processing, wood products, tourism and renewed offshore oil and gas exploration and development. On the other hand, the military element of Yakutat's economy will soon disappear as the Coast Guard's 13-man (no dependents) Ocean Cape Loran Station is scheduled to close as of December 31, 1979.

Even assuming that the Yakutat cold storage plant is rebuilt, only a modest amount of growth in this area's traditional fisheries: salmon, tanner and Dungeness crab, is anticipated. However, a high degree of interest has recently developed in the establishment of a local bottomfish industry to utilize the groundfish resources of the offshore Yakutat Grounds. If such an industry was successfully established at Yakutat, the community would undergo a significant amount of employment and population growth.

The wood products industry has recently been at a low level in the Yakutat area. However, this area possesses a sizable commercial timber resource, most of it within the Tongass National Forest but some in State ownership or selected by the Yak-Tat Kwaan, Inc. Further growth in this sector appears likely during the next twenty or so years.

Tourism has long been an element in Yakutat's economy, most of it related to recreational fishing and big game hunting. The Yakutat forelands were closed to moose hunting in 1974 but will be reopened on a limited basis in 1978. Yakutat's potential for growth derived from these types of recreational activities is limited, whereas if a Cross-Gulf ferry

service with a stop at Yakutat were initiated, the community could realize substantial tourist-related growth. It should be noted, however, that the feasibility of a Cross-Gulf ferry route has yet to be adequately demonstrated.

Another potential area for economic and, thus, population growth in the Yakutat area is as a servicing center for offshore oil and gas exploration and development activities. Following the initial offshore oil and gas lease sale in the northern Gulf of Alaska held in April 1976, Yakutat was used as a base for servicing offshore drilling rigs. A large area on the south side of Monti Bay was also leased as a possible liquefied natural gas (LNG) plant, site. Yakutat could expect to fill roughly the same function in any additional outer continental shelf oil and gas lease sales in this area of the northern Gulf of Alaska. The long term effects of these activities on the local economy, however, would depend on the success of the offshore drilling operations.

ECONOMY

Yakutat's economy is based in fishing and fish processing. However, additional sources of economic strength are found in tourism, wood products and in certain government activities, most notably those of the U.S. Coast Guard and the Federal Aviation Administration (FAA). Offshore oil and gas exploration activities also contributed to Yakutat's economy following the April 1976 lease sale although the local impact of this industry is currently at a low level. All of these activities are

called "basic" or exogenous as they are export industries whose fortunes are determined by forces outside the local area and are the foundation upon which "secondary" or endogenous industries, those whose fortunes are determined by local forces, rest. Thus, gains in basic industry are essential for long term community growth.

Composition of Employment

A survey of employment in the Yakutat road-connected area was undertaken in March 1976 by Alaska Consultants, Inc. during preparation of the Yakutat Comprehensive Development Plan (December 1976). This information was updated in 1977 for the Yakutat Capital Improvements and Services Program (September 1978) to reflect employment gains in the mining and transportation, communication and public utilities sectors resulting from initial oil and gas exploration activities in the northern Gulf of Alaska. No other major changes in the composition of Yakutat's employment took place between 1976 and 1977. Therefore, 1976 employment levels in all other sectors were assumed to hold approximately true in 1977.

The 1976 and 1977 surveys of employment were necessary since labor force statistics developed by the Employment Security Division of the Alaska Department of Labor for the Skagway-Yakutat division are not representative of conditions in Yakutat. Aside from Yakutat, this census division includes the cities of Skagway, Hoonah and Pelican plus the unincorporated communities of Elfin Cove and Gustavus. Yakutat accounts for only a minor share of the total employment in this census division and its

economy contains elements which are unlike those in some of the division's other communities. Thus, characteristics of the Skagway-Yakutat division as a whole do not necessarily apply in Yakutat.

As in most Alaskan coastal areas, employment in fishing and fish processing at Yakutat is highly seasonal. Many people engaged in these activities live in Yakutat for only part of the year or take other jobs in the community during the off-season. Because the size and composition of the local labor force varies from month to month, the 1976 survey conducted by Alaska Consultants, Inc. attempted to measure average annual full-time employment in the Yakutat road-connected area. This method has the advantage of minimizing duplication and of reducing distortions in total employment caused by transient and part-time workers. Except for fishermen, this was done by asking each employer to indicate if, when and how many seasonal personnel were added to normal employee levels.

To determine annual average employment in fishing, Alaska Department of Fish and Game personnel in Yakutat were contacted by Alaska Consultants, Inc. in 1976 to indicate the number of licensed commercial fishermen by gear type in the area. The number of months worked by each gear type was then used to arrive at an annual average of about 38 fishermen.

Overall, basic employment was estimated to account for about 60 percent of the average annual full-time employment in the Yakutat road-connected area in 1977. The basic to secondary employment ratio of almost 1:1.7 is

lower than national norms where ratios of around 1.0:1.5 are considered average. However, most Alaska communities (excluding Anchorage) have small secondary sectors. This is especially true of communities with economies heavily dependent on fishing and fish processing. By Alaska standards, Yakutat's ratio of basic to secondary employment is relatively mature, unlike many other fishing and fish processing centers where the ratio of basic to secondary employment often reaches 1.0:.4 or even more extreme disparities.

When converted to average annual full-time employment, Yakutat had a total of 257 jobs in 1977 (see Table 3). The largest single employment sector was government with a total of 82 full-time jobs. Of these, the greatest number (40) was in local government with the largest single employer in this area being the Yakutat School District.

The federal government had a total of 34 employees in Yakutat in 1977 of whom 13 were Coast Guard personnel stationed at the nearby Ocean Cape Loran Station. This facility is scheduled to close on December 31, 1979. The Federal Aviation Administration (FAA) had 10 employees while other federal agencies represented in the Yakutat road-connected area were the Weather Service, the Forest Service and the Post Office. All told, 91 percent of the federal employment in the Yakutat area was judged to be basic.

A total of 8 full-time State employees was counted in the Yakutat area in 1977, half of them performing highway maintenance functions for the

TABLE 3
AVERAGE ANNUAL FULL-TIME EMPLOYMENT a/
YAKUTAT ROAD-CONNECTED AREA
1977

<u>Industry Classi fi cati on</u>	<u>Number</u>	<u>%</u>	<u>% Basic</u>	<u>Basic Number</u>	<u>Secondary Number</u>
Agricul ture, Forestry and Fi shi ng	3a	14. 80	100	38	0
Mi ni ng	8	3. 1	100	8	0
Contract Constructi on	13	5. 1	46	6	7
Manufacturi ng	32	12. 4	100	32	0
Transportati on, Communi cati on & Public Ut ili ties	30	11. 7	63	19	11
Trade	32	12. 4	31	10	22
Fi nance, I nsurance & Real Estate	5	2. 0	40	2	3
Servi ce	17	6. 6	29	5	12
Government	82	31. 9	40	33	49
Federal	(34)	(13. 2)	(91)	(31)	(3)
State	(8)	(3. 1)	(25)	(2)	(6)
Local	(40)	(15. 6)	(0)	(0)	(40)
<u>TOTAL</u>	257	<u>100.0±</u>	60	153	104

a/ Includes self-employed and military personnel.

Source: Alaska Consultants, Inc. September 1978. City of Yakutat,
Capital Improvements and Services Program. Anchorage.

Department of Transportation and Public Facilities. Another person from the same department was associated with the airport, while the Division of Alaska State Troopers of the Department of Public Safety and the Alaska Department of Fish and Game were also represented. Only 2 persons, or 25 percent of total State employment in this area, was determined to be basic.

The second largest sector in terms of average annual full-time employment in the Yakutat road-connected area in 1977 was agriculture, forestry and fishing, with all employees in this sector being fishermen. Although the government sector had more employees, all persons engaged in fishing are considered basic compared with only 40 percent of the government jobs. Thus, the agriculture, forestry and fishing sector had the largest number of basic jobs of any employment sector in the community in 1977.

Two other employment sectors, manufacturing and trade, each averaged 32 employees in 1977. Yakutat's manufacturing sector included the fish processing operations of the Yakutat Cold Storage and Western Seafoods plus some logging activities. (The 1977 operations of the Yakutat Cold Storage were interrupted by the May 1977 fire which destroyed most of the plant). However, all employment in Yakutat's manufacturing sector can be considered basic since only a very minor share of the commercial fish catch is consumed locally and essentially all timber cut in the Yakutat area in recent years has been barged out of the community.

The largest employer in the trade sector in Yakutat in 1977 was the Yakutat Lodge which had an annual average of 11 employees. None of the other businesses in this sector had more than 2 or 3 employees. Almost one-third of the jobs in this sector were considered basic on the grounds that they were derived either from tourist activities or from offshore oil and gas exploration operations.

Transportation, communication and public utilities is a sector which was also well represented in Yakutat in 1977. A total of 30 jobs was counted in this sector compared with 20 in 1976. Nine of the 20 jobs recorded in 1976 were considered basic, all of them associated with air taxi or airline operations and thus were tourist-related. The 10 additional jobs counted in 1978 were all basic but were derived from helicopter and service base operations associated with oil and gas exploration activities in the northern Gulf of Alaska. (Service boat personnel were not counted as part of Yakutat's total employment).

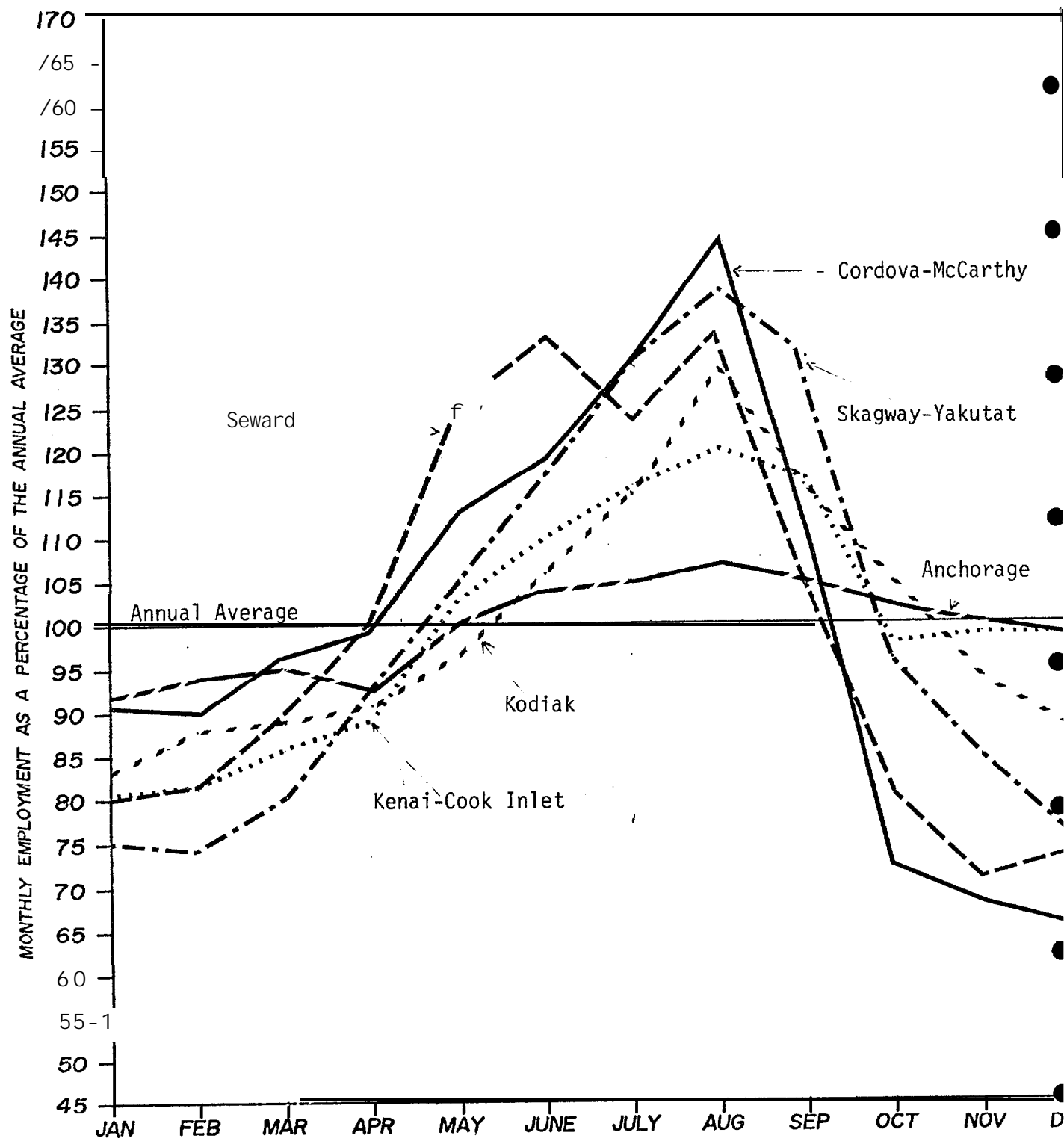
Of the remaining employment sectors, services was the best represented in Yakutat in 1977 with an annual average of 17 jobs. However, all jobs in this sector were secondary except for those associated with tourist-related hotel and boat charter operations. Contract construction averaged 13 employees, with almost half being judged to be basic. A total of 8 persons was counted in mining, 6 more than in 1976, with all employees in this sector except those associated with a sand and gravel operation being employees of oil companies active in the offshore exploration program then underway in the northern Gulf of Alaska. All of these

people were considered to be basic employees. Finally, the 5 people counted in the finance, insurance and real estate sector included employees of a local bank and of the Yak-Tat Kwaan, Inc. Employees of the Yak-Tat Kwaan, Inc. were considered to be basic since, like other corporations established under the terms of the Alaska Native Claims Settlement Act, its operations are primarily supported by government funds awarded in the settlement of Native claims rather than being dependent on monies circulating within the community.

Unemployment and Seasonality of Employment

Statistics indicating unemployment and seasonality of employment specifically for Yakutat are incomplete but, like most Alaskan areas with an economy heavily based in fishing and fish processing and supplemented by tourism, employment in this community can be expected to show a high degree of seasonal variation.

A look at 1976 employment statistics developed by the Employment Security Division of the Alaska Department of Labor for the Skagway-Yakutat division, which includes Yakutat, indicates that the division as a whole exhibited a high degree of employment seasonality (see Figure 2) and also had a high rate of unemployment. August was the "peak" month with total nonagricultural wage and salary employment reaching 138 percent of the annual average. Conversely, February was the "low" month when total nonagricultural wage and salary employment accounted for only about 74 percent of the annual average. Furthermore, unadjusted unemployment



SEASONALITY OF EMPLOYMENT SELECTED ALASKA DIVISIONS /1976

40

Source: Alaska Dept. of Labor, Employment Security Division. 1977. Alaska Labor Force Estimates.

FIGURE 2

figures indicated a very high annual average unemployment rate of 23.8 percent, peaking in January at 38.1 percent of the total civilian labor force and lowest in July and August when a still relatively high proportion (11.6 percent) of the civilian labor force was unemployed.

Field observations made by Alaska Consultants, Inc. in Yakutat during 1975, 1976 and 1977 indicate that while Yakutat probably exhibits seasonal variations in employment at least as great as the Skagway-Yakutat division, it does not have the extremes in unemployment characteristic of the division as a whole. However, this has not always been the case. In 1970, for example, the old Ocean Cape cannery went bankrupt and, until the opening of the Yakutat cold storage plant a year later, welfare was the major source of livelihood for many local residents.

To obtain a better understanding of employment seasonality in the immediate Yakutat area, insured employment data (i.e. employment covered by unemployment insurance and which thus excludes most fishermen, State and local government employees and self employed persons) for Yakutat/Ocean Cape were obtained from the Research and Analysis Section, Employment Security Division of the Alaska Department of Labor. Data for 1976 indicates a very high degree of employment seasonality, with "peak" employment in August reaching 167.1 percent of the annual average. In 1977, the "peak" employment month (June) reached only 122.7 percent of the annual average insured employment for that year, despite the fact that this was the best year for salmon of any since Statehood in the Yakutat area. However, processing employment was undoubtedly depressed in 1977 as a result of the cold storage plant fire in May of that year.

Recent Trends and Changes

Trends in employment for the Skagway-Yakutat division are not necessarily related to those which have taken place in Yakutat. Furthermore, since no detailed survey of employment was undertaken for Yakutat prior to that by Alaska Consultants, Inc. for the City of Yakutat Comprehensive Development Plan (December 1976), there is no reliable base from which to measure purely local trends in employment. Consequently, although they have major limitations, insured employment statistics for the Yakutat/Ocean Cape area have been used to provide some indication of the changes which have taken place.

Insured employment is that covered by unemployment insurance and thus excludes most State and local government employees, most fishermen, self-employed persons, domestics and people in charitable, religious and non-profit organizations. Since fishing and government are major sectors of Yakutat's economy, insured employment statistics at best give an incomplete picture. Nevertheless, they are all that is available in Yakutat's particular case.

Between 1970 and 1977, insured employment in the Yakutat/Ocean Cape area increased 51 percent. No detailed analysis of trends in the various sectors is possible because of disclosure regulations. However, a major change did take place in the fishing and fish processing industry during this period. In 1970, the old Ocean Cape Seafoods cannery went bankrupt and many people in the community were unemployed until the

community-owned cold storage plant opened in 1971. A second processor, Western Seafoods, now leases space in the old cannery. These two plants added an element of stability to the community's fishing and fish processing industry which was previously lacking. However, the May 1977 cold storage plant fire is assumed to have had a depressing effect on processing jobs here as insured employment totals in 1977 were well below 1976 levels, despite the fact that 1977 was the most successful year for salmon fishing in the Yakutat area since Statehood.

Another change which occurred in the Yakutat area in 1976 and 1977 and to a lesser extent also in 1978 but which was not necessarily reflected in insured employment data was growth in employment relating to the servicing of offshore oil and gas drilling activities in the northern Gulf of Alaska. Except for a small number of people employed at the Yakutat service base, however, these oil and gas activities have now ceased.

In response to increased opportunities for employment and income in basic industry in Yakutat, the community's secondary sector also experienced growth since 1970, particularly in the trade and local government sectors. Furthermore, the finance, insurance and real estate sector which was not represented in Yakutat in 1970 now includes a branch of Behrends Bank and the Yak-Tat Kwaan, Inc. office.

Occupational Skills

Data relating to occupational skills of adult residents in the Yakutat area was collected by Alaska Consultants, Inc. in March 1975 as part of a detailed **socio-economic** survey conducted for the City of Yakutat. Each of the 50 persons interviewed was asked to list his or her job skills. Of the first listed skills, the most often cited were in clerical and sales occupations, **followed by** those in services, professional/technical/managerial and structural work, **plus** a lesser number in processing, machine trades, miscellaneous and farming, fishery and forestry occupations (see Table 4). Another 5 **people** claimed to have no occupational skills.

As could be expected, skills claimed by the women interviewed were quite different from those claimed by men. The **only** major exception to this was in the professional/technical/managerial category which was divided evenly between the two sexes. However, of the 12 people claiming clerical skills, 11 were women, as were 5 of the 9 with skills in services. Conversely, all persons claiming skills in structural work and in miscellaneous, machine trades and farming, fishery and forestry occupations were males.

The people surveyed generally listed a fairly comprehensive range of job skills although they did not always list skills related to their primary occupations. This was especially true of fishermen and fish processing workers. On the other hand, many more people listed skills in clerical

TABLE 4
JOB SKILLS
YAKUTAT PLANNING AREA a/
1975

Occupational Category	Number		
	Male	Female	Total
Professional /technical /managerial	3	3	6
Clerical and sales	1	11	12
Services	4	5	9
Farming, fishery, forestry	3	0	3
Processing	0	3	3
Machine trades	3	0	3
Bench work	0	0	0
Structural work	6	0	6
Miscellaneous	3	0	3
Not specified	3	2	5
<u>TOTAL</u>	<u>26</u>	<u>24</u>	<u>50</u>

a/ First listed skills of 50 persons surveyed.

Source: Alaska Consultants, Inc. March 1975. Socio-Economic Survey of the Yakutat Area. Anchorage.

and sales, services, structural work, machine trades and miscellaneous occupations than were actually employed in these types of jobs. This was taken to suggest that new jobs in these categories might be filled locally if the financial rewards were sufficiently attractive. Other survey data tended to support this contention. For example, 40 percent of the people surveyed indicated that they would attempt to obtain work with the oil and gas industry if opportunities became available in the **Yakutat** area and most believed that they were sufficiently qualified to be successful in obtaining employment with that industry. This degree of self confidence was apparently justified as around 30 persons, most of them locals, were employed at the **Yakutat** service base in 1976 at the peak of exploration activity in the northern Gulf of Alaska following the first OCS lease sale.

Income Levels

The median family income recorded by the U.S. Census for the **Skagway-Yakutat** census division in 1969 was \$11,414, a figure which was 91.7 percent of the Statewide median of \$12,443 in that same year. However, these statistics are now nine years old and are almost meaningless in terms of current dollars. In addition, Skagway-Yakutat census division statistics were not necessarily representative of income levels in **Yakutat** even at the time they were recorded.

Given the depressed economic situation which existed in **Yakutat** around the time of the 1970 Census, it is probable that median family incomes

in the community were below those recorded for the Skagway-Yakutat census division at that time. No current data are available for the census division (except for average monthly wage levels), but more recent income statistics for Yakutat compiled by Alaska Consultants, Inc. as part of a 1975 **socio-economic** survey indicate that substantial gains in income have been made by many of this community's families.

A total of 50 **Yakutat** households was surveyed by Alaska Consultants. In each household, the person being interviewed was asked to total up all cash income received by the household in 1974 except for monies paid out under the terms of the Alaska Native Claims Settlement Act. From this survey, the mean household income in **Yakutat** and its road-connected area in 1974 was determined to be \$15,900 (see Table 5). In addition to **conventional** income, 29 of the 50 households surveyed received Alaska Native Claims Settlement Act benefits and all but 5 indicated that they supplemented their cash income through subsistence hunting, fishing or other food gathering activities.

Despite Yakutat's increased prosperity, welfare in the form of general assistance payments made by the U.S. Bureau of Indian Affairs to Alaska Natives and public assistance funds distributed by the Alaska Department of Health and Social Services remain significant sources of income for some local residents. The Bureau of Indian Affairs distributed a total of \$26,543 among 28 individual "cases" in **Yakutat** during its **fiscal** year 1977 (see Table 6). Except for fiscal years 1974 and 1975, the amount of general assistance paid out in fiscal year 1977 was fairly typical

TABLE 5
HOUSEHOLD INCOME DISTRIBUTION
YAKUTAT, ALASKA a/
1974

<u>Household Income</u>	<u>Percent of Total</u>
Under \$3,000	2.0
\$3,000-\$4,999	8.0
\$5,000-\$7,499	4.0
\$7,500-\$9,999	16.0
\$10,000-\$14,999	16.0
\$15,000 - \$19,999	24.0
\$20,000 - \$24,999	20.0
\$25,000-\$29,999	4.0
\$30,000 or more	6.0
<u>TOTAL</u>	<u>100.0</u>
Mean Household Income	\$15,900

a/ Based on a sample of 50 households in the City of Yakutat and its road-connected area.

Source: Alaska Consultants, Inc. 1976.¹ City of Yakutat, Comprehensive Development Plan. Anchorage.

TABLE 6

GENERAL ASSISTANCE PAYMENTS a/
YAKUTAT, ALASKA
FY 1972 - FY 1977

	<u>FY 1972</u>	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
Total Payment	\$37,464	\$28,468	\$14,362	\$7,525	\$39,636	\$26,543
Number of Cases	47	45	31	15	38	28
Average Payment:						
Annual	\$ 797	\$ 633	\$ 463	\$ 502	\$ 1,043	\$ 948
Monthly	\$ 66	\$ 53	\$ 39	\$ 42	\$ 87	\$ 79

a/ Payments made to individual cases by the Bureau of Indian Affairs.

Source: U.S. Department of the Interior, Bureau of Indian Affairs.
Juneau.

TABLE 7

PUBLIC ASSISTANCE PROGRAM PAYMENTS
YAKUTAT, ALASKA
OCTOBER 1977 a/

	<u>Old Age Assistance</u>	<u>Aid to the Blind</u>	<u>Aid to the Disabled</u>	<u>Aid to Families with Dependent Children</u>	<u>Total</u>
Total Payment	\$2,347	\$ 0	\$ 88	\$2,007	\$4,442
Number of Cases	18	0	1	7	26
Average Payment	\$ 130	\$ 0	\$ 88	\$ 278	\$ 171

a/ October is considered to be a representative month for public assistance payments to individual cases.

Source: Alaska Department of Health and Social Services, Division of Public Assistance.

for this area during the past six years, but the funds were distributed among fewer "cases".

Statistics developed by the Division of Public Assistance of the Alaska Department of Health and Social Services indicate that a total of \$4,442 was distributed to 26 cases in Yakutat during a typical month in 1977, for an average monthly payment of \$171 (see Table 7). While these welfare payments appear rather high for a town of Yakutat's size (they are higher than those recorded for Cordova, for example), it should be noted that 18 of the 26 cases were for Old Age Assistance.

SECTOR ANALYSIS

Fishing and Fish Processing

The fishing and fish processing industry has been Yakutat's major economic activity since the turn of the century. Until May 13, 1977, there were two seafood processing plants in the community, Yakutat Cold Storage and Western Seafoods. The Yakutat Cold Storage was owned by the City of Yakutat and leased to the Yakutat Fishermen's Cooperative which froze salmon, halibut and crab. However; except for the ice house and dock, this plant was destroyed by fire in May 1977. A second processor, Western Seafoods, is located in the old Ocean Cape cannery and normally processes salmon, Dungeness crab, tanner crab and minor amounts of halibut. Close to 25 persons were employed in fish processing on an average annual year-round basis in Yakutat in 1977, plus almost 40 in fishing, but not all of these people are local residents.

The Yakutat fisheries management area extends between Cape Suckling and Cape Fairweather. Yakutat is the only community within this fisheries area but a large share of the fish harvested here is either not caught by locally based fishermen or is not processed at Yakutat, or both. Effort by Yakutat fishermen is almost exclusively centered around salmon with most shellfish and halibut taken by boats from outside the Yakutat area. However, a number of Yakutat residents (and the Community Enterprise Development Corporation) have a financial interest in a 42.7 meter (140 foot) freezer vessel which is currently being leased to an operation engaged in hauling frozen fish products from Dutch Harbor and the Bering Sea to Seattle.

According to the Alaska Department of Fish and Game (1975), slightly more than half of the crab caught in the Yakutat fisheries area is usually processed at Yakutat but little halibut is landed locally. There are more than twenty major salmon streams in the Yakutat area with about ten supporting a commercial set gill net fishery on a regular basis. These are the Alsek, Akwe, East-Dohn, Italio, Situk, Lost, Yahtse, Kaliakh and the Tsiu-Tsivat Rivers. It is on these river systems as well as Manby Shore and inside Yakutat Bay that most effort by local fishermen is concentrated. The Yakutat area also has a major offshore power troller salmon fishery but most of these vessels land their catches elsewhere, primarily at Pelican but sometimes as far away as Seattle.

The salmon fishery of the Yakutat area **is** unlike that of the remainder of Southeast Alaska, both in species composition and in the gear used. Whereas the region as a whole is primarily a pink salmon fishery, the more valuable reds and **cohos** form the basis of the Yakutat district catch. Pinks, chums and kings spawn in only a few streams in the area although a pink salmon run to **Humpy** Creek on **Yakutat** Bay produces well in odd-numbered years and a king salmon run is fished on the **Alsek** River. Almost the entire chum salmon catch in the area comes from the **Alsek** River. Overall, the **Situk** River is the area's largest producer followed by the **Alsek** and the **East-Dohn**.

a

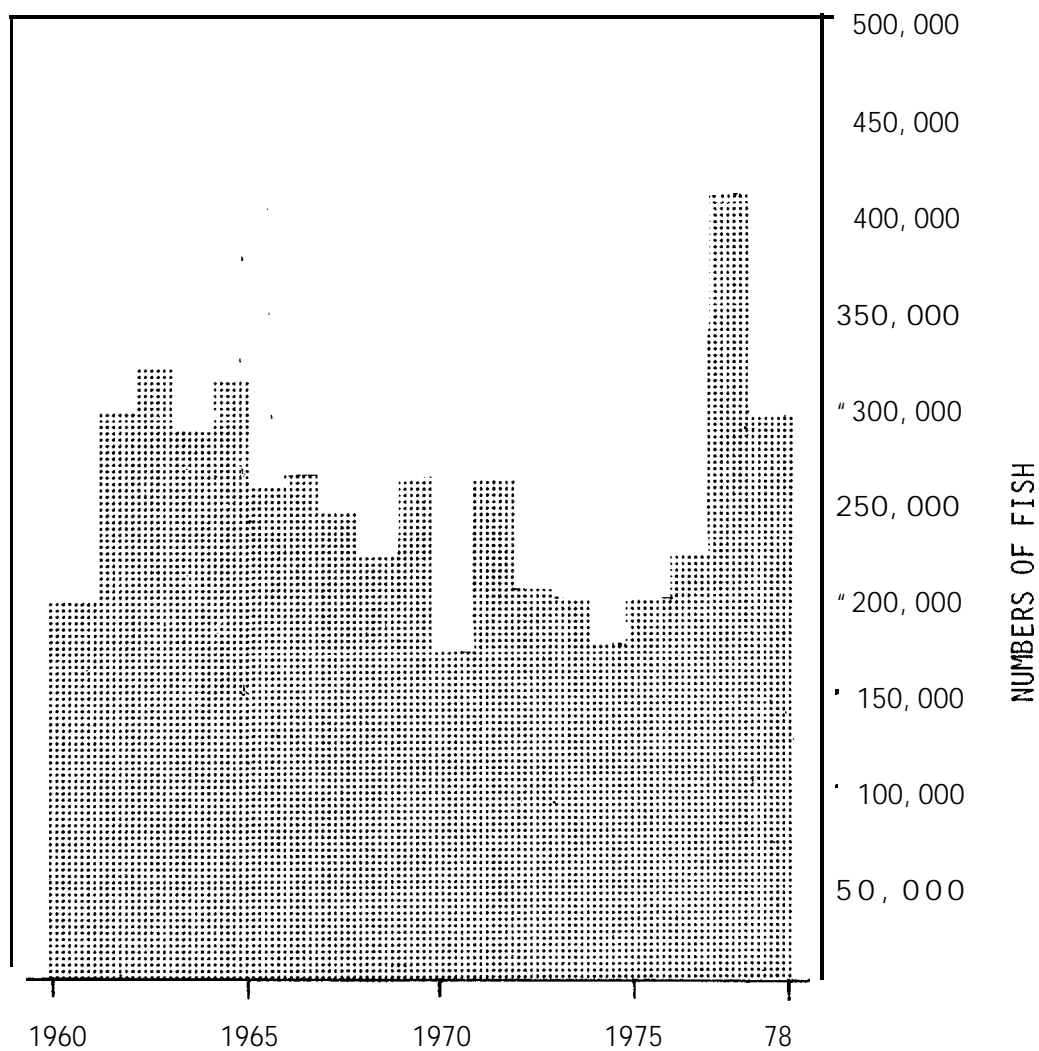
Unlike the set gill net **salmon** fishery of the Yakutat area, the troll fishery is relatively **new**. There are two distinct troll fleets, one fishing the "inside" and the other fishing the "outside" waters. The inside troll fishery **has developed** during the past ten or so years and is primarily a locally based hand troll fleet made up of skiffs and pleasure boats, most of which do not venture outside Yakutat Bay. By contrast, most of the power trollers are more than 24.4 meters (80 feet) long with the smallest being in the 12.2 to 15.2 meter (40 to 50 foot) range. The offshore **troll** fishery has grown in importance in Southeast Alaska during the past fifteen or so years as many of the earlier trolling grounds in the region became less productive and the larger boats began fishing the outside waters, first off **Baranof** and **Chichagof** Islands and, more recently, the Fairweather grounds north of Cape Spencer. According to the Alaska Department of Fish and Game (1975), as much as 75 percent of the total Southeast Alaska troll catch now comes

from these offshore areas, with about 30 percent of the total coming from the Fairweather grounds.

As in most other areas of the State, salmon catches in the Yakutat area have declined over the years. In the early 1900's, a few record years of 600,000 to 800,000 fish were reported, compared with an annual average of 245,000 fish during the 1960-1977 period. Since 1971, salmon catches in the Yakutat area have exceeded this 18-year average only once, in 1977 (see Figure 3). The total salmon catch in 1977 here was the best since 1955, with the red salmon catch the best since 1945. The 1977 pink salmon catch was also exceptionally good while the coho fishery, which had registered fairly consistent declines in recent years, saw the best catch since 1968 (see Table 8).

The April 1977 fire which destroyed the Yakutat cold storage plant has brought some changes to the Yakutat area's salmon fishery. During the 1978 season, salmon was purchased by both the Yakutat Fishermen's Cooperative and Western Seafoods and also by two other buyers. Much of the fish bought by the Cooperative was processed at the Western Seafoods plant and most of the salmon purchased by the two local plants was frozen and flown out of the area. One other buyer flew salmon directly out of Yakutat while the fourth shipped his fish to Juneau.

The Yakutat cold storage plant was owned by the City of Yakutat and leased to private operators, currently the Yakutat Fishermen's Cooperative. Unfortunately, the plant was seriously under-insured. Efforts to obtain



YAKUTAT AREA COMMERCIAL SALMON CATCH

1960 - 1978

Source: Alaska Department of Fish and Game (1975)

Alaska Department of Fish and Game,
Personal Communication

TABLE 8
COMMERCIAL SALMON CATCH BY SPECIES a_/ b/
YAKUTAT AREA c/
1960 - 1977

(pounds) d/

Year	Sal mon Spec i es					Total
	Ki ng	Red	Coho	Pi nk	Chum	
1960	6, 000	266, 000	891, 000	49, 000	125, 000	1, 337, 000
1961	33, 000	530, 000	1, 143, 000	329, 000	104, 000	2, 139, 000
1962	49, 000	532, 000	1, 516, 000	108, 000	165, 000	2, 370, 000
1963	16, 000	290, 000	1, 181, 000	245, 000	94, 000	1, 826, 000
1964	37, 000	553, 000	1, 375, 000	153, 000	57, 000	2, 175, 000
1965	28, 000	749, 000	1, 104, 000	17, 000	43, 000	1, 941, 000
1966	33, 000	1, 260, 000	593, 000	6, 000	29, 000	1, 921, 000
1967	33, 000	557, 000	1, 083, 000	146, 000	43, 000	1, 862, 000
968	62, 000	565, 000	968, 000	8, 000	151, 000	1, 754, 000
969	64, 000	683, 000	435, 000	269, 000	137, 000	1, 588, 000
970	128, 000	679, 000	350, 000	17, 000	67, 000	1, 241, 000
971	138, 000	837, 000	359, 000	282, 000	41, 000	1, 657, 000
1972	90, 000	832, 000	485, 000	12, 000	74, 000	1, 493, 000
1973	75, 000	878, 000	377, 000	72, 000	89, 000	1, 491, 000
1974	112, 000	570, 000	728, 000	21, 000	42, 000	1, 473, 000
1975	89, 000	459, 000	360, 000	297, 000	32, 000	1, 237, 000
1976	89, 000	875, 000	518, 000	116, 000	75, 000	1, 673, 000
1977	66, 000	1, 334, 000	993, 000	283, 000	85, 000	2, 761, 000
<hr/>						
Average	63, 000	692, 000	803, 000	135, 000	81, 000	1, 774, 000

a/ Figures for 1960-1964 derived by multiplying number of fish caught by average weights for each species.

b_/ All figures rounded to nearest thousand.

c/ The Yakutat fisheries management area extends from Cape Suckling southeast to Cape Fairweather.

d/ Multiply by .4536 to obtain kilograms.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries.

funding to rebuild the plant have thus far been unsuccessful but the City will probably become actively involved in this effort in the near future and is hopeful that the cold storage plant can once again become operational.

Halibut is a minor element in Yakutat's fisheries industry. This is an international fishery with catch levels and the length of the fishing season regulated by the International Pacific Halibut Commission. The 1978 quota for Area 3 (which extends westward from Cape Spencer out along the south side of the Aleutians) was established at 4,989,600 kilograms (11 million pounds). Fishing periods were set at May 8 to May 31, June 19 to July 6, July 25 to August 10 and August 26 to September 11, with the season to close as soon as the quota was reached. The International Pacific Halibut Commission reported that the 1978 Area 3 season closed on August 4, by which time a total of 5,488,560 kilograms (12.1 million pounds) of halibut had been taken. The 1978 catch was approximately the same as that in 1977 under the same quota conditions. According to the International Pacific Halibut Commission, a total of 630,957.6 kilograms (1,391,000 pounds) of halibut was landed at miscellaneous Central Alaska ports in 1977. This designation included Yakutat, Cordova and several other ports.

According to information provided by local processors, approximately 103,420.8 kilograms (228,000 pounds) of halibut were landed at Yakutat in 1973, 70,308 kilograms (155,000 pounds) in 1974 and 58,060.8 kilograms (128,000 pounds) in 1975. Although no statistics are currently available,

the amount of halibut processed at Yakutat in 1977 and 1978 was probably lower than in prior years because most halibut processed in the community is normally done at the cold storage plant.

Shellfish is an important part of **Yakutat's** fish processing industry although little is taken by locally based fishermen. The area has sizable Dungeness and Tanner crab pot fisheries, a scallop dredge fishery and a minor shrimp pot fishery. In addition, some king crab are occasionally taken in **Yakutat** Bay (see Table 9).

According to the Alaska Department of Fish and Game (1975), **Dungeness** crab are fished off the coast of the **Yakutat** area by vessels in the 10.7 to 16.8 meter (35 to 55 foot) range. Fishing gets underway in June and usually ends in August or September when bad weather **conditions** discourage most fishermen. However, some small catches are recorded through to the end of the season in February.

Alaska Department of Fish and Game personnel in Petersburg indicated that a total of 856,291 kilograms (1,887,767 pounds) of Dungeness crab were caught in the Yakutat fisheries area during the 1977-78 season. Petersburg Fish and Game personnel further reported that most Dungeness crab landed in **Yakutat** in 1978 was **whole** cooked and flown to California.

The **Dungeness** crab fishery originated on the West Coast and that area remains its principal market. Thus, Alaska catches tend to fluctuate in relation to the size of the West Coast catch. Between 1960 and 1973,

TABLE 9

SHELLFISH CATCH BY SPECIES
YAKUTAT AREA ^{a/}
1960 - 1978-
(pounds) ^{b/}

Year	King Crab	Dungeness Crab	Tanner Crab	Shrimp	Scallops	Total
1960	---	543,762	---	---	---	543,762
1961	4,366	1,023,545	---	---	---	1,027,911.
1962	2,799	937,051	---	488	---	939,850
1963	23,879	1,383,298	---	875	---	1,407,177
1964	3,818	637,140	---	68	---	640,958.
1965	261	910,278	---	---	---	910,539
1966	---	538,060	---	---	---	528,060
1967	---	2,031,460	---	22,718	---	2,054,178.
1968	---	2,096,119	708	---	903,468	3,000,295
1969	---	1,207,397	---	---	836,712	2,044,109
1970	---	1,508,561	---	10,080	22,726	1,541,367
1971	---	1,668,654	---	---	84,948	1,753,602
1972	4,503	1,992,574	15,493	---	128,241	2,140,811
1973	---	3,086,022	1,893,086	---	173,241	5,152,808
1974	---	1,726,842	3,087,512	---	356,493	5,170,847
1975	6,300 <u>c/</u>	1,097,508 <u>c/</u>	1,997,199 <u>c/</u>	---	121,951	3,222,958
1976	---	628,879 <u>c/</u>	1,724,649 <u>c/</u>	---	189,543	2,543,071
1977	---	542,726 <u>c/</u>	966,650 <u>c/</u>	185,000 <u>c/</u>	22,000	1,716,376
1978 <u>d/</u>	6,876 <u>c/</u>	1,887,767 <u>c/</u>	998,646 <u>c/</u>	---	N/A	2,893,289

a/ The Yakutat fisheries management area extends from Cape Suckling southeast to Cape Fairweather.

b/ Multiply by .0004535147 to obtain metric tons.

c/ Catches for 1974-75, 1975-76, 1976-77 and 1977-78 seasons, not calendar years.

d/ Preliminary figures.

Sources: Alaska Department of Fish and Game, Division of Commercial Fisheries. 1975. A Fish and Wildlife Inventory of the Northeast Gulf of Alaska.
Alaska Department of Fish and Game, Division of Commercial Fisheries. Petersburg.

catches in the area north and west of Cape Spencer generally increased, with these increases being primarily due to corresponding increases in effort. In 1973, the catch reached a record high of 1,399,820 kilograms (3,086,022 pounds) but then fell in successive years through the 1976-77 season when a total catch of only 246,181 kilograms (542,726 pounds) was recorded. However, these declines in the catch were primarily due to exceptionally good **Dungeness** catches on the West Coast rather than to any decline in the resource off Yakutat. The failure of the West Coast catch in 1978 (and, thus, higher prices to Alaska fishermen) is likely to be reflected in increased landings in the Yakutat area, at least in the short term.

Tanner crab is a very important but a relatively new fishery in the Yakutat area. Except for 321 kilograms (708 pounds) taken in 1968, commercial exploitation of this species did not get underway here until 1972 when 7,028 kilograms (15,493 pounds) was taken. The catch rose rapidly during the following two years, peaking at 1,400,495 kilograms (3,087,512 pounds) in 1974. Since **1974**, catch **levels** for this species have fallen, with a total of 1,400,495 kilograms (3,087,512 pounds) recorded for the 1977-78 season. However, at least part of this apparent decline is believed to be due to the imposition of a minimum legal size **limit** of 13.5 centimeters (5.3 inches) for male tanner crabs in 1976. According to Alaska Department of Fish and Game personnel in Petersburg, tanner crab processed at Yakutat in 1978 were mostly whole cooked and flown out of the area. However, some were taken in live tank vessels to Cordova for processing.

The tanner crab fishery in the Yakutat area operates primarily in offshore waters between 54.86 and 201.17 meters (30 and 110 fathoms) in depth. Vessels are large, most of them in the 33.53 meter (110 foot) class. The season opens at the beginning of September and extends through the middle of May although bad weather often limits fishing effort during the winter months. Tanner crab has proven to be a very important addition to **Yakutat's** fishing and fish processing industry and has served to extend the fishing season through the winter months. The outlook for this fishery appears good and promises to continue to be of considerable importance in **Yakutat's** economic well-being.

Limited stocks of red and brown king crab occur in Yakutat Bay. However, the only recorded commercial harvests here **since** 1970 took place in 1972 and during the 1974-75 and 1977-78 seasons when 2,042.6 kilograms (4,503 pounds), 2,857.7 kilograms (6,300 pounds) and 3,119 kilograms (6,876 pounds) respectively were taken. Little is known about king crab stocks in the Yakutat area but their commercial potential is believed to be minor.

At least five species of shrimp are found in **Yakutat** Bay but they have attracted little commercial interest. Periodic efforts by vessels using beam trawl gear and shrimp pots have not proven very successful and it is assumed that most shrimp taken here in the future **will** continue to be for subsistence purposes.

Scallops have been commercially exploited in the Yakutat area only during the past ten years. This had traditionally been an East Coast fishery but a decline in the national catch in 1966 coupled with promising results of exploratory scallop fishing in Alaska attracted several East Coast vessels to this State. However, the Alaska scallop fishery has not lived up to initial expectations and the three remaining vessels from New Bedford are currently engaged in other fisheries.

The only areas in the Gulf of Alaska region which support significant numbers of weathervane scallops are near Yakutat and Kodiak, with the latter being the most productive. According to the Alaska Department of Fish and Game (1975), major beds in the Yakutat area occur 32.2 to 64.4 kilometers (20 to 40 miles) offshore between Cape St. Elias and Cape Fairweather in depths ranging from 62.2 to 102.4 meters (34 to 56 fathoms) or deeper. Vessels which engaged in this fishery were generally in the 27.4 to 30.5 meter class, while dredges were usually 3.7 to 4.3 meters (12 to 14 feet) wide. The scallops were shucked on board ship and the meats washed, packed in 18.1 kilogram (40 pound) capacity cloth bags and iced down in the hold. Almost all deliveries were made to Kodiak.

The first year for which commercial scallop catches were recorded in the Yakutat fisheries area, 1968, was the most productive to date. In that year, a total of 409,813 kilograms (903,468 pounds) of shucked meats were caught here. Catches remained high in 1969 but then fell off dramatically to 1,031 kilograms (22,726 pounds) in 1970. Although catches then rose gradually through 1974, they have since fallen off

again, with only 9,979 kilograms (22,000 pounds) recorded in 1977.

Scallops remain a fishery with a higher potential for exploitation under better market conditions and the successful introduction of mechanical shucking equipment. In the short term, however, no significant increases are foreseen.

According to the Alaska Department of Fish and Game (1975), other fish species are present in the Yakutat area but relatively little is known about them. Immature herring are found on the east side of Yakutat Bay during the summer months and usually attract a large number of small king salmon feeders to the area. However, little information is available as to the economic potential of a herring fishery here. In addition, there are large razor clam populations in the Yakutat area but they remain essentially unexploited except by a few local residents.

Bottomfish are a major unexploited resource in the Yakutat fisheries area. For the Yakutat grounds, the North Pacific Fisheries Management Council estimated in its Fisheries Management Plan and Environmental Impact Statement for the Gulf of Alaska Groundfish Fishery (1977), that the optimum annual yield of groundfish, including **sablefish**, was 44,000 metric tons. Broken down by species, this included 12,500 metric tons of **pollock**, 5,000 metric tons of cod, 6,300 metric tons of flounder, 8,000 metric tons of Pacific Ocean perch, 3,400 metric tons of **rockfish**, 5,900 metric tons of sablefish and 2,900 metric tons of other groundfish species.

Development of a bottomfish industry at Yakutat has been a subject of considerable local interest. The area offshore from Yakutat does have large bottomfish populations. However, this is a new fishery with many attendant unknowns and it is generally considered more likely that a bottomfish industry would first have to be successfully established at Kodiak or further westward before a town like Yakutat would be considered. Nevertheless, expansion into bottomfishing remains a long term possibility at Yakutat.

Oil and Gas Exploration and Development

Oil and gas-related activities are currently only a very minor element in Yakutat's economy. However, following the April 1976 outer continental shelf oil and gas lease sale in the northern Gulf of Alaska, Yakutat was used as a service base by Shell and ARCO and a number of oil and gas-related jobs were added in the community during this period.

Oil and gas is not an entirely new industry in the Yakutat area. Alaska's first oilfield was at Katalla, between Cordova and Yakutat, but it yielded only about 154,000 barrels of oil in over thirty years of operation. Four onshore wells were drilled in the immediate vicinity of Yakutat between 1957 and 1960 although none resulted in commercially significant finds (see Table 10). Finally, the State held six competitive offshore lease sales in the northern Gulf of Alaska between 1960 and 1967, two of which included tracts in Yakutat Bay. However, the only well resulting from these offshore sales was a dry hole drilled by

TABLE 10
ONSHORE WELLS DRILLED FOR PETROLEUM
YAKUTAT AREA

<u>Company and Name of Well</u>	<u>Year</u>	<u>Total Depth (feet) a/</u>	<u>' e' " ' "</u>	<u>Location</u>
Colorado Oil & Gas Corp. Yakutat Unit 1 (drilled jointly with Frankfort Oil Co.)	1957	9,314	Abandoned due to mechanical difficulties. Shows of oil.	Near Yakutat Airport
Colorado Oil & Gas Corp. Yakutat Unit 2 (formerly A No. 1; drilled jointly with Frankfort Oil Co.)	1957- 1958	11,765	Abandoned due to mechanical difficulties. Shows of oil and gas.	Near Yakutat Airport
Colorado Oil & Gas Corp. Yakutat Unit 3 (drilled jointly with Frankfort Oil Co. and Continental oil co.)	1958- 1959	10,848	Abandoned due to mechanical difficulties. Shows of gas.	Near Yakutat Airport
Colorado Oil & Gas Corp. Dangerous River Unit 1 (drilled jointly with Frankfort Oil Co., Continental Oil Co., Sinclair Oil and Gas Co. and BP Exploration Co. (Alaska), Inc.	1960	8,364	Abandoned. Dry hole.	Dangerous River

a/ Multiply feet by .3048 to obtain meters.

Source: U.S. Department of the Interior, Geological Survey. (Reprinted
in City of Yakutat Comprehensive Development Plan by Alaska
Consultants, Inc., December 1976).

Tenneco to 3,658.2 meters (12,002 feet) about 3.2 kilometers (2 miles) east of Middleton Island.

In April 1976, the U.S. Department of the Interior offered 189 offshore tracts **totalling** 408,134 hectares (1,005,000 acres) between Icy Cape and a point just east of Kayak Island. Bids were accepted on 79 of these tracts which had a total area of 165,543 hectares (409,057 acres).

Eleven wells were subsequently drilled by five major companies (see Table 11) but all proved to be dry holes and active exploration activity in this area has now ceased.

The impact on **Yakutat** of exploratory offshore drilling activities was significant. This community was selected by Shell and ARCO (and originally also by Mobil) as the base for their offshore operations and a marine service base was constructed on the south side of **Monti** Bay during 1976 to serve two semi-submersible drilling rigs (the Sedco 706 and the Ocean Ranger) being used by these companies. **Yakutat** was also a center of helicopter operations serving the various offshore rigs. At peak, about 30 people were employed on the marine service base at **Yakutat**, almost all of them local residents. As many as 20 people were associated with the operations of ERA Helicopters and Evergreen Helicopters of Alaska at the **Yakutat** airport. at the height of offshore exploration activity. However, essentially all of these people were from outside the **Yakutat** area and did not live in the **community**.

TABLE 11

WELLS DRILLED FOR PETROLEUM
OUTER CONTINENTAL SHELF
NORTHERN GULF OF ALASKA

<u>Company, Name of Well and Drilling Rig</u>	<u>Completion Date</u>	<u>Total Depth (feet) a/</u>	<u>Results</u>	<u>Location b/</u>
Shell Oil Company OCS Y-0011 #1 Sedco 706	1/25/77	13,565	Abandoned. Dry Hole.	OCS Block 106 Tract 42 22 miles east Cape Suckling
Atlantic Richfield Co. Salome #1 Ocean Ranger	5/24/77	17,921	Abandoned. Dry Hole.	OCS Block 72 Tract 39-30 23 miles west of Icy Cape
Shell Oil Company OCS Y-0014 #1 Sedco 706	6/20/77	13,598	Abandoned. Dry Hole.	OCS Block 111 Tract 47 20 miles SW Cape Yakataga
Exxon Corporation Ocs Y-0050 #1 Alaskan Star	7/05/77	12,995	Abandoned. Dry Hole.	OCS Block 284 Tract 126 36 miles SW Cape Yakataga
Texaco Incorporated OCS Y-0046 #1 Ocean Bounty	7/15/77	15,013	Abandoned. Dry Hole.	OCS Block 241 Tract 116 115 miles W of Yakutat
Gulf Oil Corporation Ocs Y-0059 #1 Aleutian Key	8/17/77	12,170	Abandoned. Dry Hole.	OCS Block 329 Tract 142 118 miles W of Yakutat
Shell Oil Company Ocs Y-0014 #2 Sedco 706	9/06/77	15,390	Abandoned. Dry Hole.	OCS Block 111 Tract 47 37 miles SE Cape Suckling

TABLE 11
(continued)

<u>Company, Name of Well and Drilling Rig</u>	<u>Completion Date</u>	<u>Total Depth (feet) a/</u>	<u>Remarks</u>	<u>Location b/</u>
Exxon Corporation OCS Y-0080 #1 Alaskan Star	1/04/78	13,507	Abandoned. Dry Hole.	OCS Block 343 20 miles SE Kayak Island
Texaco Incorporated OCS Y-0032 #1 Ocean Bounty	2/20/78	15,638	Abandoned. Dry Hole.	OCS Block 162 Tract 39-78 85 miles W of Yakutat
Exxon Corporation OCS Y-0072 #1 Alaskan Star	3/14/78	9,835	Abandoned. Dry Hole.	OCS Block 414 34 miles SE Cape Suckling
Exxon Corporation Ocs Y-0035 #1 Alaskan Star	7/01/78	11,731	Abandoned. Dry Hole.	OCS Block 165 15 miles SW of Icy Cape

a/ Multiply feet by .3048 to obtain meters.

b/ Multiply miles by 1.6093 to obtain kilometers.

Source: Petroleum Information, Alaska Report, Vol. 22-24.

Aside from employment, Yakutat was also impacted to some extent by crew changes from the offshore rigs. However, this impact was minimized as an effort was made to time crew changes to coincide with scheduled airline departures. When poor weather prevented incoming crews from traveling directly to the offshore rigs, they were billeted at the old White Alice site on the Phipps Peninsula under the terms of an agreement between ARCO and the Yak-Tat Kwaan, Inc.

A 161.9 hectare (400 acre) site on the south side of Monti Bay was leased from the Yak-Tat Kwaan, Inc. by the Pacific Alaska LNG Company. This firm planned to eventually use only about 30 percent of the site for an LNG plant if gas was discovered in commercially recoverable quantities offshore and if it was a successful bidder for the gas. However, interest in the LNG project dwindled with the lack of success offshore.

Although oil and gas-related employment at Yakutat is currently limited to a few custodial jobs at the marine service base, Yakutat remains an obvious location for oil and gas-related firms to base future offshore operations in the northern Gulf of Alaska. Yakutat Bay is the only acceptable natural port in the area between Cape Spencer and Prince William Sound, assuming the U.S. Geological Survey's comments about the unsuitability of Icy Bay to be founded (Anchorage Daily News, May 4, 1977). In addition, Yakutat's superior airport facilities make it a logical location for offshore helicopter operations. The extent to which Yakutat is used for oil and gas-related activities, however,

primarily depends on where in the Gulf of Alaska future outer continental shelf oil and gas tracts are offered for lease and the amount of industry interest.

Wood Products

Commercial use of timber products in the **Yakutat** area dates back to 1888 when the Swedish Free Mission built a small sawmill in the community. Since that time, sporadic logging activities have taken place. However, while the **Yakutat** area has timber resources capable of supporting a sizable wood products industry, development of these resources is currently at a very low level.

Almost all commercial timber in the **Yakutat** area is within the **Tongass** National Forest, with comparatively minor (although commercially significant) amounts being in State ownership or having been selected by the Yak-Tat Kwaan, the **Yakutat** village corporation established under the terms of the Alaska Native Claims Settlement Act. **Sitka** spruce accounts for about 64 percent of the total commercial forest land area, with hardwoods taking up about 30 percent and western hemlock, mountain hemlock and hemlock/spruce stands representing the balance in near equal proportions. Although young growth sawtimber and immature stands make up about two-thirds of the area's commercial forest land, around 76 percent of the total net board foot volume is in old growth stands. By species, about 80 percent of the commercial timber volume here is **Sitka** spruce, 16 percent is hemlock and 4 percent is black cottonwood.

Using figures supplied to Alaska Consultants, Inc. by Tongass National Forest Service personnel in Juneau, there are currently about 303,068 hectares (748,881 acres) of National Forest land in the Yakutat area, although only 90,800.5 hectares (224,368 acres) are classed as commercial forest land (see Table 12). Excluding hardwoods, the Forest Service has calculated that these forests are capable of yielding a total of 4,485,886 thousand board feet of timber. The Forest Service no longer calculates sustained timber yields from specific areas within the Tongass National Forest. However, using relationships between volume and sustained yield developed by the Forest Service in its 1961 inventory in this area, Forest Service lands in the Yakutat area should be capable of yielding between 71,000,000 and 72,000,000 board feet of timber per year using a 120 year rotation.

To date, only a minor amount of the commercial timber in the Yakutat area has been logged. In recent years, a major factor in the slow pace of timber exploitation here was the inclusion of most National Forest timber in this area in a long term sale to the St. Regis Paper Company of New York held in December 1965. An annual allowable cut of 50,000,000 board feet from the old Yakutat Working Circle was included in this long term sale which, using 1961 Forest Service figures for accessible commercial forest lands, theoretically left an annual allowable cut of 19,000,000 board feet for smaller independent sales. This long term sale was later awarded to U.S. Champion-International and has since lapsed altogether but it effectively tied up most timber in the Yakutat area for a ten year period. The Forest Service's subsequent moratorium

TABLE 12
TIMBER INVENTORY OF FOREST SERVICE LANDS
YAKUTAT AREA

	<u>Hectares</u>	<u>Acres</u>
<u>Approximate number of hectares (acres)</u> <u>in National Forest:</u>	<u>303,068</u>	<u>748,881</u>
Non-forest and non-commercial forest land	212,268	524,513
Commercial forest land	90,800	224,368
<u>Total volume (thousands of board feet):</u>	<u>4,485,886</u>	
Inventoried volume	4,485,886	
National Forest unregulated species <u>a/</u>	252,239	

a/ Hardwoods - predominantly cottonwood.

Source: U. S. Department of Agriculture, Forest Service, Tongass
National Forest, Timber Management Section, Juneau. 1978.

on independent timber sales in this area until village land selections under the terms of the Alaska Native Claims Settlement Act were completed further depressed activity in the local wood products industry. More recently, uncertainties as to the future ownership of lands in the **Yakutat** area have continued to discourage the sale of timber from Forest Service lands.

No logging is currently taking place in the Yakutat area. One logging operation is based in Yakutat and normally cuts lumber for the Alaska Lumber and Pulp mill in **Sitka**. However, according to the local operator, he has not been involved in logging since completing cleanup work, much of it blow down timber, on State lands near **Ophir** Creek during the summer of 1977. This operator further reported that he shipped his logging equipment out of the **Yakutat** area in the summer of 1978.

Under the terms of the Alaska Native Claims Settlement Act, the Yak-Tat Kwaan, Inc. was entitled to select 9,324.2 hectares (23,040 acres) of land in the immediate vicinity of **Yakutat**. According to figures supplied by the Kwaan, the lands selected include 7,863.2 hectares (19,430 acres) of commercial forest with a total timber volume of approximately 521.4 million board feet. These timber lands are planned to be managed on a sustained yield basis, with most to be clear-cut except on the Phipps Peninsula.

Yak-Tat Kwaan is a member of **SANTCO** (Southeast Alaska Native Timber Company) to which **Sealaska** and most village corporations in the region

presently belong. The idea behind the formation of SANTCO was to pool corporate timber resources and to manage them as a single unit, with members receiving forestry-related income on a regular basis, regardless of whether or not timber was actually logged from a particular village's lands in a given year. However, **SANTCO** has had a number of organizational problems and presently faces an uncertain future.

Despite the problems and uncertainties presently facing the wood products industry in the Yakutat area, significant growth in this industry is nevertheless highly probable during the next twenty years. Like the fishing and fish processing industry, the wood products industry is labor intensive and this industry thus promises to make a positive contribution to future employment and population growth in the Yakutat area.

Tourism and Recreation

Yakutat, which has daily jet service each way to Anchorage and Juneau, is the most accessible of all the traditional **Tlingit** communities with the possible exceptions of Saxman and **Klukwan**. However, although Yakutat receives a number of tourists, most come here to take advantage of this area's exceptional hunting and fishing opportunities rather than because of the town's **Tlingit** heritage.

Yakutat offers probably the best stream sport fishing in Southeast Alaska and is the only place in the region where king salmon can be

taken in fresh water. Sportsmen here can fish for steelhead, all five **salmon** species, cutthroat trout, Dolly Varden char, northern pike, rainbow trout and **grayling** although the main sport fishing effort is for steel head and red and king salmon. The Situk River is especially popular as it is large and slow moving enough to permit float type fishing trips. Tawah Creek, Lost River and Ankau Slough are all accessible by road and are popular with fishermen while other excellent sport fishing streams include the **Italio**, Akwe and Don Rivers although the latter are currently accessible only by light aircraft. The **Yakutat** area also offers good recreational salt water fishing opportunities, especially for king and silver salmon.

In 1975, a total of 290 steelhead were landed from the Situk River although only 81 were kept. According to the Sport Fish Division of the Southeastern Regional Office of the Alaska Department of Fish and Game, the 1975 run was generally good but poor weather kept angler effort below that of the previous year. The lowering of the steelhead limit from three to two fish per day in 1975 undoubtedly also contributed to a **lower** catch. According to Southeastern Regional Office personnel, the steel head runs in the **Situk** River are currently in good shape and anglers probably took about 100 fish in 1978. Nevertheless, the limit of two steel head per day still remains in effect.

Stream sport salmon fishing success was reduced in the **Yakutat** area after 1974 as a result of the outlawing of snagging **salmon** in fresh water and because of the reduction of the salmon bag limit from six to

two fish per day, of which not more than one may be a king salmon. The effect of the anti-snagging regulations can be seen in the dramatic drop in the number of red salmon taken from the **Situk** River between 1974 when 3,102 reds were taken and 1975 when only **105** were landed (and 58 kept). In 1978, the Southeastern Regional Office's Division of Sport Fish estimated that between 200 and 250 reds, 150 to 200 kings and 300 to 400 **cohos** were taken from the **Situk** River/Lost River system. The **Situk** River also has a good pink salmon run but this receives little attention from sport fishermen and, in the opinion of the Division of Sport Fish, probably fewer than 200 pinks were taken in 1978.

According to Southeastern Regional Office's Division of Sport Fish personnel, it is being proposed to increase the salmon bag limit to four fish per day (only one of which may be a king) next season. This proposed increase is felt to be justified in view of good escapements and because the pressure on the resource anticipated as a **result** of the April 1976 outer continental shelf oil and gas lease sale did not materialize.

Not only does **Yakutat** offer excellent sport fishing but it is one of Southeast Alaska's premier hunting areas. Moose, brown bear, black bear (including the blue color phase or glacier bear), deer, goat and wolves make up the main big game species, while marine mammals, waterfowl and small fur bearing animals are also numerous. However, moose and bear are the species receiving the most attention from hunters.

Moose migrated to the Yakutat foreland from the Interior during the 1930's and became established on the west side of Yakutat Bay in the 1950's. Their numbers increased rapidly and soon attracted the attention of hunters. In 1969, a peak of 514 hunters took 324 moose but the number of hunters and animals taken then dropped dramatically until 1974 when the Yakutat foreland was closed to moose hunting altogether. The herd around the fringes of the Malaspina Glacier, on the other hand, remained well stocked and limited hunting continued in that area. In 1978, moose hunting on the Yakutat foreland was permitted for the first time since 1974 but the quota of 25 moose each for the forelands and the west side of Yakutat Bay was only a fraction of the number taken in previous years. A total of 27 moose were taken on the forelands in 1978 plus another 12 from the west side of the Bay. The failure to reach the quota in the latter area, however, was primarily due to difficulty of access and poor weather conditions rather than an absence of moose.

The decline of the moose populations of the Yakutat area is reflected in a sharp decrease in the use of Forest Service cabins here, most of which were located for moose hunters. The total number of visitor days at these cabins declined slightly more than 50 percent between 1970 and 1977 (see Table 13). The decline in the number of visitors did not fall off so dramatically, an indication that moose hunters spent significantly more time in the area than do fishing and other outdoor enthusiasts.

Yakutat is a favorite area for guided trophy hunting by non-residents of black and brown bear, plus the blue color phase of black bear, glacier

TABLE 13

FOREST SERVICE RECREATION CABIN USE TRENDS
YAKUTAT AREA
1970 - 1977

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	1977
Individual Visitors	838	209	647	n/a	557	686	626	672
Total Visitor Days	8,972	8,186	7,130	5,141	3,999	4,306	4,526	4,454

Source: U.S. Forest Service, Yakutat Work Center.

bear. Some mountain goats are also taken. According to Southeastern Office Division of Game personnel, about 20 black bear, the same number of brown bears and one or two glacier bears are taken each year. Goat hunting has shown some increase in this area, with between 20 and 30 taken in 1978.

Although hunting and fishing remain the Yakutat area's primary attraction for tourists, the spectacular scenery of this area also attracts other groups. There are around twenty peaks of over 3,350 meters (11,000 feet) elevation above sea level in the nearby St. Elias and Fairweather Ranges which attract experienced mountain climbers each year. In addition, the Forest Service maintains about 32 kilometers (20 miles) of hiking trails in the Yakutat area although most are not accessible by road, while the area also attracts its share of photography buffs and beachcombers.

The impact on Yakutat's economy from tourism is primarily felt through the use of guide services, air charter and boat rental operations and lodge facilities, plus some purchasing of goods and services within the community. Visitors stay at one of two lodges in the road-connected area or at one of the various Forest Service cabins in the larger area. (For a listing of the recreation activities associated with the Forest Service cabins and the frequency of their use in 1977, see Table 14). As previously indicated, use of the Yakutat area by sportsmen dropped significantly following the closure of the area for moose hunting. While limited moose hunting is now allowed, only a modest growth in

TABLE 14
FOREST SERVICE RECREATION CABIN USE a/
YAKUTAT AREA
1977

Cabin Location	Main Recreation Activities	Number of Individual Visitors				Total Visitor Days
		Local	Res.	Non-Res.	Total	
Situk Lake	General recreation, fishing	21	41	2	64	484
Middle Situk River <u>b/</u>	Fishing	34	164	99	297	1,614
Lower Dangerous River	General recreation	2			2	24
Harlequin Lake	Bear, goat hunting, general recreation	6	18		24	138
Square Lake <u>c/</u>	Fishing					
Tanis Mesa <u>b/</u>	Bear hunting	2	16		18	200
Alsek River	Bear hunting			6	6	52
East River	Bear hunting	1	5		6	72
Middle Dangerous River	General recreation	1			1	4
Situk Weir	Fishing	68	81	9	158	1,094
Italio River	Fishing, bear hunting, beachcombing	16	29	51	96	772

a/ Moose hunting previously listed as a main recreation activity for all cabins in the Yakutat area. General recreation includes combinations of hiking, viewing scenery, photography and just getting away from it all - no one activity is the main goal of the recreationist.

b/ Double ended cabins.

c/ Can be reached by float plane only. No float plane service is available in Yakutat.

Source: U. S. Forest Service, Yakutat Work Center.

tourism associated with hunting and fishing opportunities in this area is anticipated in the future.

A potential source of tourism in Yakutat is the connection of this community to the State marine highway system. The State has long had tentative plans to develop a Cross-Gulf ferry route connecting ferry systems serving Southeast and Southcentral Alaska, with a stop at Yakutat. The costs of developing such a route would be very high since it would necessitate the construction of an oceangoing ferry vessel. Furthermore, the feasibility of the route has yet to be established. Nevertheless, if a Cross-Gulf ferry route is initiated, Yakutat would be likely to receive a share of camper-type tourist traffic similar to that now received at other ports on the marine highway system.

Military

The Ocean Cape Loran station is located on the Gulf of Alaska coast near the mouth of Ophir Creek, a short distance by road from Yakutat. This U.S. Coast Guard facility has a long range radio aid to navigation function and is manned by 13 personnel who live in group quarters at the site.

The Loran "B" system is in the process of being replaced by the more sophisticated Loran "C" system and the Yakutat station is scheduled to be phased out as of December 31, 1979. Yakutat was not selected as a site for a Loran "C" station and, once the existing facility closes,

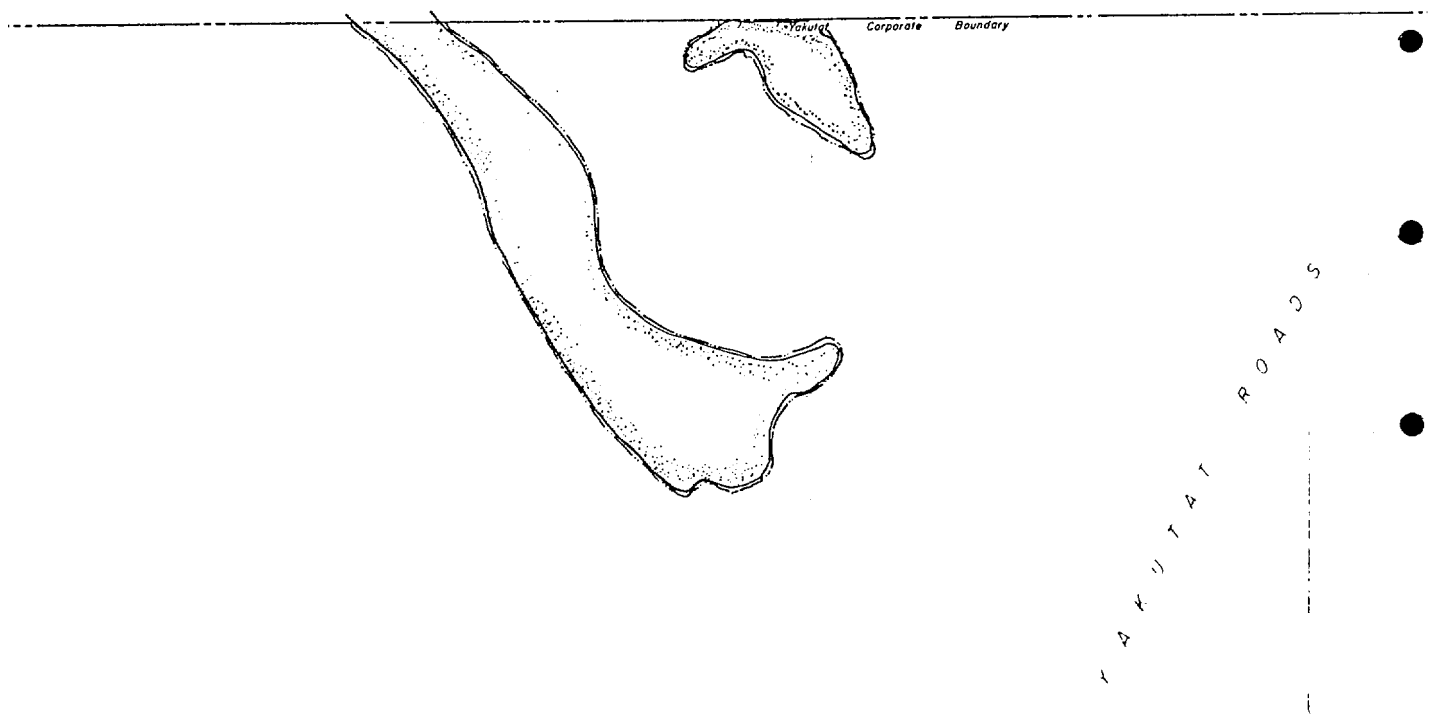
there will be no military personnel stationed in this area. However, military-related activities normally have low multiplier factors in terms of their ability to support secondary employment and the closure of the Ocean Cape Loran station is expected to have only a very minor negative impact on **Yakutat's** economy.

Land Use

OVERALL LAND USE PATTERNS







The pattern of **Yakutat's** development today owes much to its past, to local topography and drainage conditions and to the dependence of the town's industries on a waterfront location. The present community at the head of **Monti** Bay dates from the late 1880's when **Tlingits** from settlements in the general area were attracted here by the establishment of the Swedish Free Mission at the north end of town. Early settlement clustered around the Mission but was later attracted southward following the establishment of a cannery at the Ocean Cape Seafoods site in 1904. This second area, lying generally between the present City Hall and the old cannery property then became the main part of town and has remained so until this day (see Figure 4).

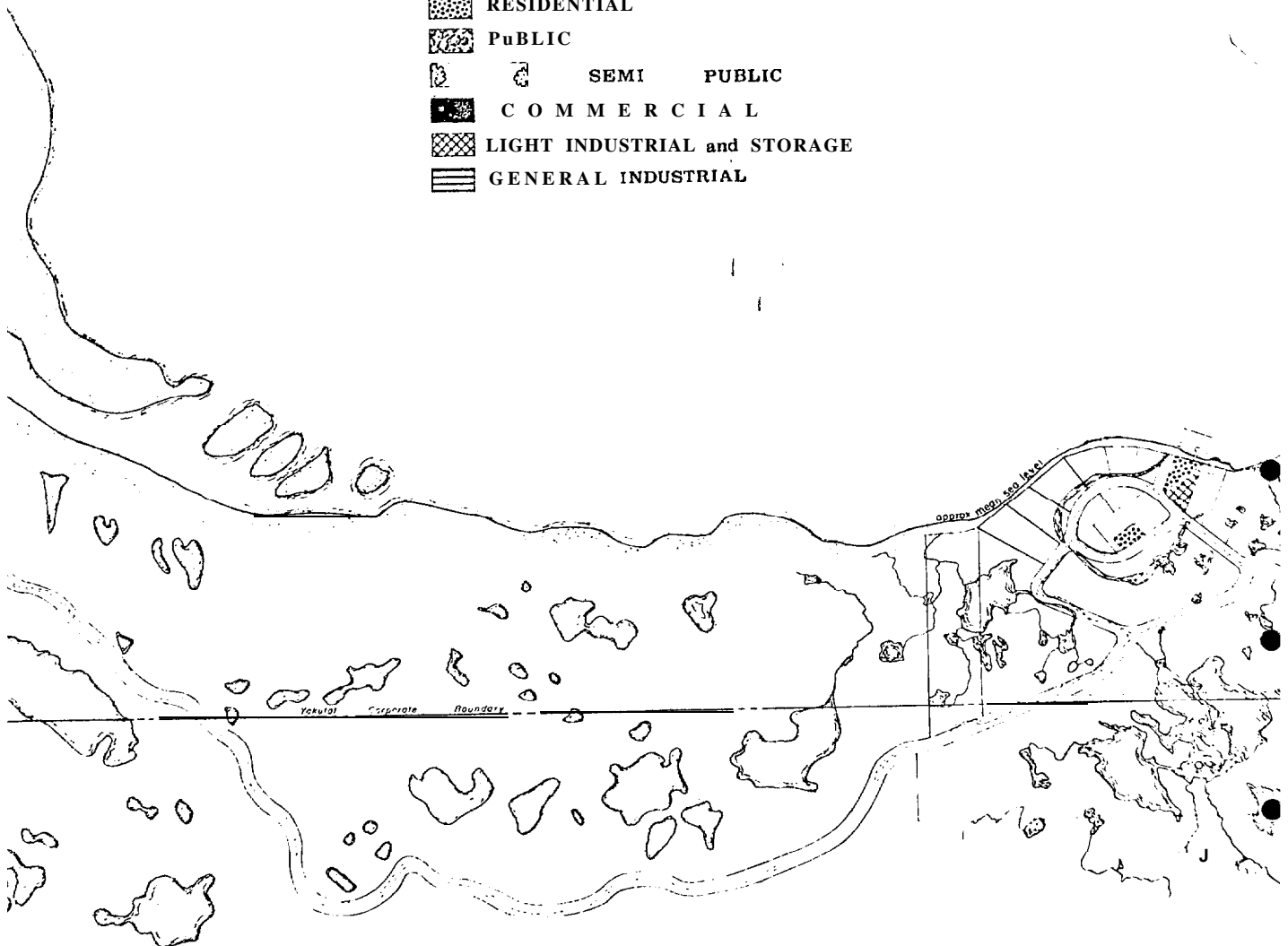
Like most Southeast Alaska communities, **Yakutat's** development generally parallels the coast. Although the local topography influences this form of development, proximity to the water is important to people living in this area, particularly to its **Tlingit** residents. Furthermore, a

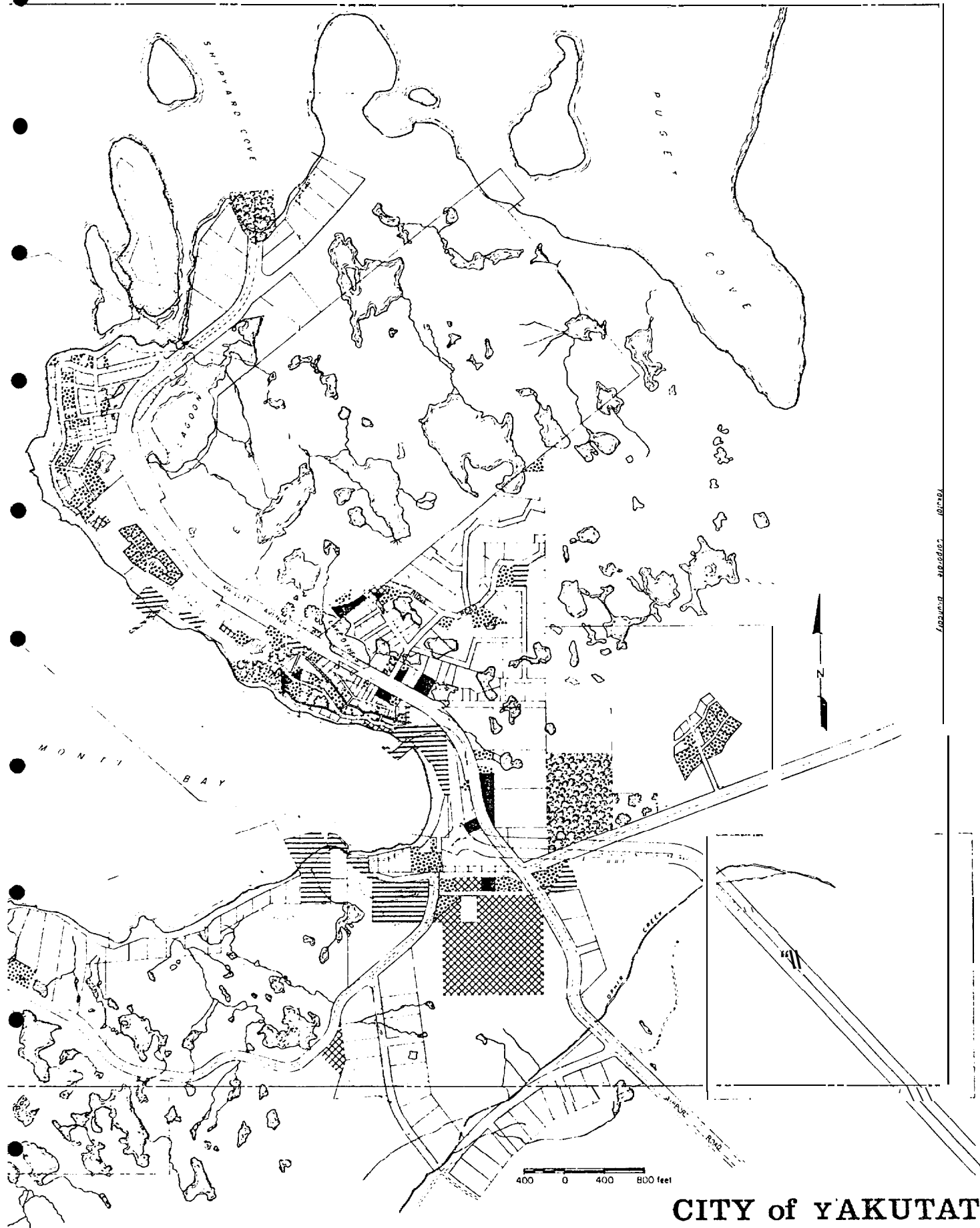


Existing Land Use

LEGEND

-  RESIDENTIAL
-  PUBLIC
-  SEMI PUBLIC
-  COMMERCIAL
-  LIGHT INDUSTRIAL and STORAGE
-  GENERAL INDUSTRIAL





Alaska Consultants, Inc. , December 1976

waterfront location is essential for this area's traditional industry, fishing and fish processing and, more recently, for the servicing of offshore oil and gas exploration activities. Some movement away from the coast followed the construction of Mallott Avenue in 1962, particularly by businesses wishing to take advantage of the improved access afforded by the addition of this major thoroughfare. The construction of the high school and elementary school plants away from the old central area of town has also contributed to a loss of dominance of the older area.

In terms of relationships between land uses, residential development within Yakutat's corporate limits is most concentrated in the northern and central areas of town, both of which face west onto Monti Bay. These two areas are separated by a close to 121 hectare (300 acre) block of land known as the Mission property which is owned by the Evangelical Covenant Church of America and which is mostly vacant. Other residential areas in town include the ASHA housing project off Situk Road beyond the school, the Tlingit and Haida Regional Housing Authority subdivision in the Mission property, scattered residential development in the Ridge Road area uphill from the central area of town and a small, older residential area at the south end of town near the garage.

Commercial development in Yakutat is fairly scattered but most commercial uses are now located in the central area of town facing onto Mallott Avenue. However the community's major store is still located in the community's traditional commercial district in the central part of town on Bayview Drive.

Industrial development in Yakutat is concentrated in three main areas. The Yakutat cold storage plant (or what remains of it) is located on Monti Bay between the central and northern residential sections of town. The community's sewage treatment plant is also in this area. A second industrial area is the old Ocean Cape cannery complex. This area includes a seafood processor and the community's commercial dock. Yakutat residents view the cold storage and Ocean Cape cannery areas as suitable for traditional industrial uses such as fish processing but unsuited for oil and gas-related industrial development.

The community's third industrial area, on the other hand, has largely been utilized for oil and gas-related industrial activities. This area includes a Standard Oil distributor's dock and a marine service base, the latter developed in conjunction with the servicing of oil and gas exploration activities in the northern Gulf of Alaska following the initial OCS lease sale in this area. Another area further to the west on the south side of Monti Bay was (and still is) leased as a possible LNG plant site by Pacific Alaska LNG Company following the first OCS lease sale in the northern Gulf.

These and other undeveloped sites along the south side of Monti Bay are suited to major industrial development in that there is a large amount of depth between the waterfront and the access road and, also, that the water offshore rapidly reaches depths sufficient to accommodate oceangoing vessels. From the City's point of view, sites here are suited to potentially disruptive industrial development such as oil and gas since

traffic between this area and the airport does not have to pass through the town's residential areas.

A tabulation of occupied lands within Yakutat's corporate limits in 1976 by Alaska Consultants, Inc. found a total of 78.1 hectares (192.93 acres) of land in use (see Table 15). Aside from developed streets which took up the largest area (37.6 hectares or 93 acres), most land was occupied by industry (19.2 hectares or 47.49 acres) and residences (2.5 hectares or 30.6 acres). Outside town, development is essentially confined to three areas, one associated with the airport, a second at the Coast Guard's Ocean Cape Loran station and the third in the vicinity of the Glacier Bear Lodge.

Yakutat has been actively engaged in a formal planning program since 1970. The City's first comprehensive development plan was completed in 1971 by the Alaska State Housing Authority. This document was heavily used but land acquisition ventures by various oil-related groups prior to the 1976 northern Gulf outer continental shelf lease sale and general community growth prompted the City to undertake a series of planning-related studies, beginning in 1975 when a detailed socioeconomic survey was undertaken by Alaska Consultants as to the aspirations and desires of Yakutat residents in relation to future development. Alaska Consultants was subsequently retained by the City to prepare a two phase comprehensive development plan. The first phase primarily involved the preparation of an interim zoning ordinance, with the second involving a complete updating of the 1971 comprehensive development plan. A capital improvements and

TABLE 15
EXISTING LAND USE
CITY OF YAKUTAT, ALASKA a/
1976

<u>Land Use</u>	<u>Land Area</u> <u>(acres) <u>b/</u></u>	<u>Percent of</u> <u>Developed Area</u> <u>%</u>	<u>Percent of</u> <u>Total Land Area</u> <u>%</u>
Residential	30.60	15.9	1.6
Commercial	4.30	2.2	0.2
Industrial	47.49	24.6	2.4
Light Industrial	(25.09)	(13.0)	(1.3)
General Industrial	(22.40)	(11.6)	(1.2)
Public & Semi-Public	17.54	9.1	0.9
Public	(13.37)	(6.9)	(0.7)
Semi-Public	(4.17)	(2.2)	(0.2)
Developed Streets	93.00	48.2	4.8
<u>Total Developed Area</u>	<u>192.93</u>	<u>100.0</u>	9.9
Vacant Land	1,747.07		90.0
<u>TOTAL LAND AREA</u>	<u>1,940.00</u>		<u>100.0</u>

a/ A minor amount of tidelands in Yakutat are also in use. Yakutat's corporate limits include 1,940.00 acres of land, 229.56 acres of tideland and 2,950.44 acres of water area.

b/ Multiply by .4046945 to obtain hectares.

Source: Alaska Consultants, Inc. December 1976. City of Yakutat Comprehensive Development Plan. Anchorage.

services program which took the potential impact of OCS and deep sea fisheries development on Yakutat into account was completed by Alaska Consultants in September 1978. No coastal management plans have yet been prepared by or for the City of Yakutat.

DEVELOPMENT CONSTRAINTS

The major physical constraints on development in the immediate Yakutat area are the topography and drainage conditions. Other existing or potential constraints include erosion problems in some areas of town the area's susceptibility to earthquakes capable of causing major structural damage and a shortage of privately held land which is available to individuals for residential development.

Topographic barriers to development in the Yakutat area exist in the form of moraines left by the retreat of glaciers which once filled Yakutat Bay. Within the community, these moraines attain their steepest form behind the central and northern parts of town although slopes are also locally steep behind the Standard Oil dock and marine service base area on the south side of Monti Bay. Further west along the shore of Monti Bay, the topography becomes less of a factor although steep slopes do occur in some locations.

The Yakutat area is characterized by very heavy year-round precipitation. According to U.S. National Climatic Center records, the normal total precipitation for this community is 335.15 centimeters (131.95 inches)

per year, including 562.86 centimeters (221.6 inches) of snow. Under such conditions, heavy surface runoff occurs and, particularly where the ground cover has been removed, contributes to the erosion of hillside areas. This has caused a good deal of local concern in four areas of town - Monti Bay Heights above Bayview Drive, the bluff above the cold storage plant, the ARCO service base hill and the Ocean Cape cannery area. The reseeding or planting of these areas has been recommended to prevent further erosion.

The combination of uneven topography and heavy precipitation in the immediate vicinity of Yakutat results in locally poor drainage conditions in areas of little slope. Much of the area immediately east of Mallott Avenue in the northern and central portions of town is characterized by extremely steep slopes with lakes and ponds occupying the bottoms of ravines and there is very little undeveloped land here that could be classed as buildable. West of Mallott Avenue, additional residential development could be accommodated through infilling, especially in the northern end of town and in the Mission property, assuming that the latter eventually becomes available. However, the largest amount of undeveloped land suitable for residential use is in the south end of town in the vicinity of the power plant and along Situk Road, where slopes are less severe. There are at least 121 hectares (300 acres) of developable land inside Yakutat's existing corporate limits in this area.

Relief and drainage act as only a very minor constraint on development along the south shore of Monti Bay to near the Ankau. These lands are generally considered by the City of Yakutat to be suitable for non-traditional industrial uses such as those associated with oil and gas exploration and development and this area has been zoned accordingly.

A drainage-related constraint on development in the immediate Yakutat area is Ophir Creek which crosses Airport Road immediately south of town. Ophir Creek is a salmon spawning stream and the City has prohibited development along this watercourse.

Yakutat has experienced major earthquakes in the past, with the most severe being felt in 1899 and 1957. The strongest of a series of quakes in 1899 registered between 8.5 and 8.6 on the Richter scale, stronger than the 1964 Alaska earthquake and one of the strongest recorded anywhere in the world. The 1957 earthquake had a magnitude of between 7.9 and 8.0 and triggered a landslide on Khantaak Island in Yakutat Bay which killed three people. The same earthquake caused a landslide in nearby Lituya Bay which resulted in a wave runup of about 530.4 meters (1,740 feet), the highest ever recorded. More recently, in July 1973, the Yakutat area was shaken by a series of earthquakes centered offshore.

Many faults in the Yakutat area are active and several are known to have broken the surface in recorded time. Foremost among these is the Fairweather fault, the closest portion of which is within 56.3 kilometers (35 miles) of Yakutat. However, the 1973 series of earthquakes have been related to a "postulated" fault offshore.

Given the propensity of the Yakutat area for experiencing major earthquakes, a certain amount of caution in the design and construction of major facilities in this area is advisable. According to the U.S. Geological Survey (1975), the artificial fills and moraines on which the community is built generally present few building problems except where they have a high silt content or steep margins. Fills with a high silt content tend to be poorly drained and are more susceptible to frost penetration while those with steep margins are more liable to be affected by subsidence and landsliding during earthquakes and by erosion and landsliding from non-earthquake related causes.

Finally, land ownership patterns in the Yakutat area have served as a constraint to development to some extent. Excluding lands selected by the Yak-Tat Kwaan, Inc., there is virtually no privately owned land immediately outside Yakutat's corporate limits except for a limited amount in the vicinity of the Glacier Bear Lodge. Within town, lots for residential development have also been a scarce commodity in recent years despite the fact that most lands in the settled areas of town are privately owned.

LAND STATUS

Prior to the passage of the Alaska Native Claims Settlement Act in 1971, land status in the Yakutat area was reasonably simple. Except for church property, most land in the Yakutat townsite area was either owned by individuals or was held by the Townsite Trustee in the Bureau of Land

Management. Outside town, almost all land was within the Tongass National Forest except for a few Native allotments and lands selected by the State under the terms of the Statehood Act.

Under the Statehood Act, the State was granted the right to select a total of 161,877.8 hectares (400,000 acres) of National Forest lands in Alaska "for the purpose of furthering the development and extension of communities". In the immediate Yakutat area, State applications for 1,600.2 hectares (3,954 acres) of unsurveyed land and 1.8 hectares (4.35 acres) of surveyed land located immediately outside the areas of town which had been platted by the Bureau of Land Management were tentatively approved in February 1978. Another .07 hectares (.18 acres) were given tentative approval in December 1970. In addition, the State received title to approximately 1,456.9 hectares (3,600 acres) of non-Forest land associated with the Yakutat airport. Following the April 1976 OCS lease sale in the northern Gulf of Alaska, the State leased some airport lands to helicopter companies operating out of Yakutat and two helicopter hangar facilities were subsequently constructed here.

By authority of Section 29.18.190 of the Alaska Statutes, a city "may select 10 percent of the vacant, unappropriated, unreserved State land located within its boundaries". In 1976, the City of Yakutat had selection requests for 21.5 hectares (53.16 acres) on file with the Alaska Division of Lands but none of these lands had been transferred to City ownership. The State is the owner (or at least has tentative approval) of 303.5 hectares (750 acres) of land within Yakutat's corporate limits and has

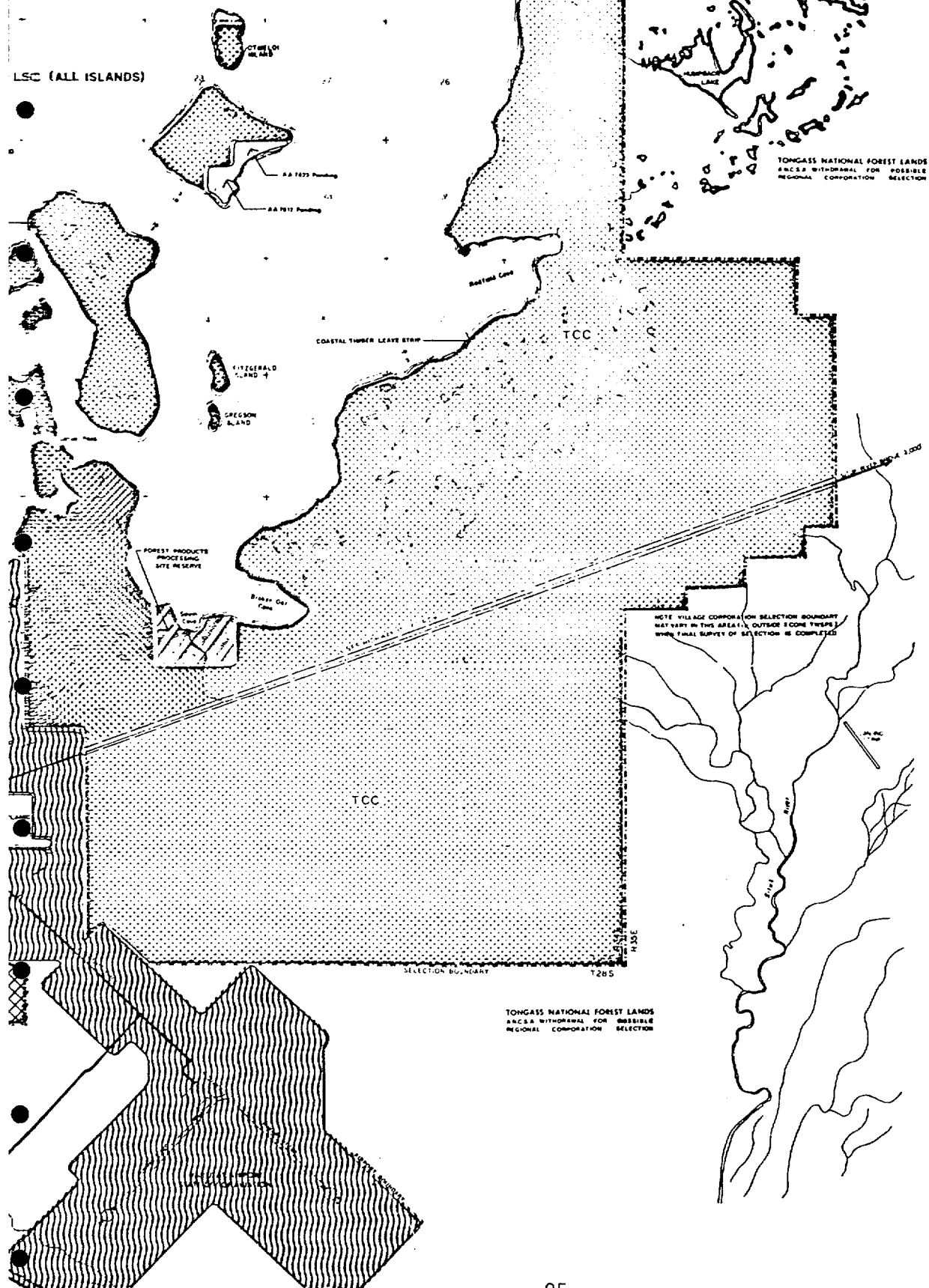
agreed that the City is eligible to receive 30.4 hectares (75 acres) of these lands.

With the passage of the Alaska Native Claims Settlement Act, the Yak-Tat Kwaan, Inc., the Yakutat village corporation, was entitled to select 9,324.2 hectares (23,040 acres) in the vicinity of Yakutat from a twelve township withdrawal area containing approximately 44,441.5 hectares (109,815 acres) of land. (The remaining acreage in the Kwaan's withdrawal was water area which was not selectable). Of the lands selected by the Kwaan, at least 518.0 hectares (1,280 acres) are required to be transferred to the City of Yakutat for purposes of municipal expansion, **rights-of-way** for public use and other foreseeable community needs. However, the subsurface estate of all lands selected by the Kwaan is retained by Sealaska (the regional Native corporation).

As required by the Claims Act, most lands selected by the Yak-Tat Kwaan, Inc. lie within its two core townships, although some additional lands have been selected between **Redfield** and Humpback Coves. Selected lands fall into three main blocks as their continuity is broken by State selected lands and water areas. These are the Phipps Peninsula, an area extending north and east of town from a short distance east of **Puget** Cove to Humpback Cove, plus Khantaak, **Dolgoi, Kriwof** and several smaller islands lying immediately offshore from Yakutat (see Figure 5).

The Yak-Tat Kwaan, Inc. also obtained lands from the State of Alaska as a result of a land trade in April 1976. Under this agreement, the Kwaan

ORATED ND USE PLAN



YAKUTAT
R O A D

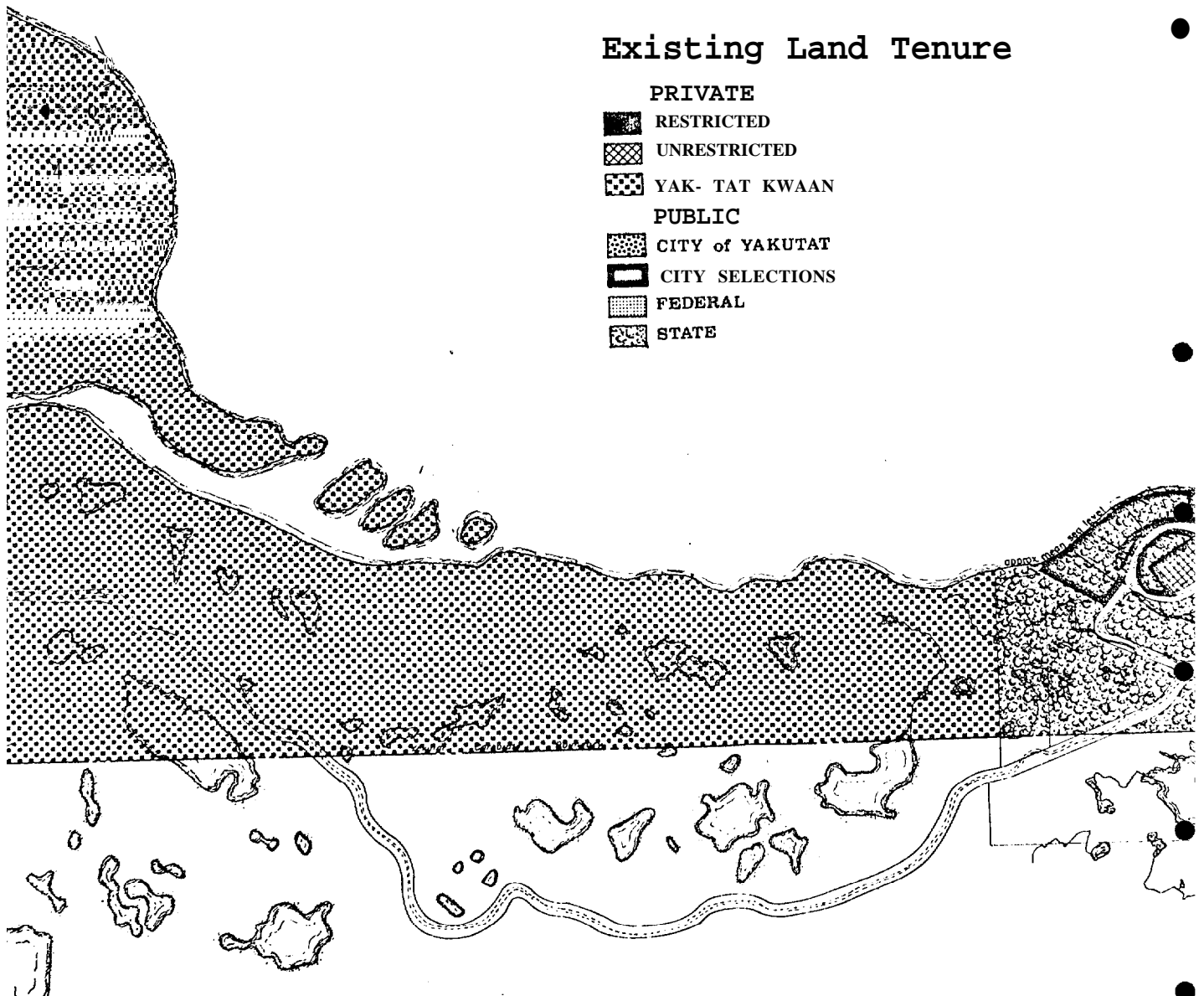
Existing Land Tenure

PRIVATE

- RESTRICTED
- UNRESTRICTED
- YAK- TAT KWAAN

PUBLIC

- CITY of YAKUTAT
- CITY SELECTIONS
- FEDERAL
- STATE





CITY of YAKUTAT

Alaska Consultants, Inc., December 1976

FIGURE 6

was able to acquire approximately 28.3 hectares (70 acres) of waterfront and back-up lands adjacent to the marine service base on the south side of Monti Bay in exchange for 26.7 hectares (66 acres) of forested land which were transferred to the State. These waterfront lands were subsequently leased to the service base operators for possible future expansion of their facility (see Figure 6).

Passage of the Omnibus Act amending the Claims Act gave the Sealaska Corporation, the regional corporation serving Southeast Alaska's Tlingit and Haida people, the right to make land selections from within the Tongass National Forest. Section 16(b) of the Claims Act, as amended, requires the consent of the Governor of Alaska for lands selected by and conveyed to Sealaska from the Yakutat withdrawal area. The State has provisionally consented to the filing of Sealaska selections in the Yakutat withdrawal area but withholds consent required for these lands to be conveyed pending the enactment of a land exchange between Sealaska and the Forest Service. Sealaska filed on 12,138.4 hectares (29,994 acres) in the northeast portion of the Kwaan's withdrawal area in December 1977. A second Sealaska selection filed in September 1978 took in all remaining available lands within the Yakutat withdrawal area. Although the State has yet to consent to Sealaska's receiving title to lands in the Yakutat area, Sealaska believes that the required land exchange may be difficult in view of wilderness proposals contained in proposed 11-2 legislation and is currently evaluating the surface and subsurface value of lands it has selected near Yakutat.

Lands in the Yakutat area not affected by urban development or which have not been selected by the State, the Yak-Tat Kwaan, Inc. or the Sealaska Corporation remain within the Tongass National Forest except for an occasional Native allotment and a privately owned parcel a short distance from town on which the Glacier Bear Lodge stands. However, the status of lands across Yakutat Bay and those southeast of the Alsek River would be affected if D-2 legislation currently before the U.S. Congress passes in a form proposed by the Administration. Under these proposals, a Wrangell-St. Elias national park/preserve encompassing a 4.8 million hectare (12 million acre) area extending between the Copper River on the west and the Klauane National Park and Territorial Game Sanctuary in Canada on the east, would be created. In the Yakutat area, this would take in lands on the northwest side of Yakutat Bay, including the Malaspina and the Hubbard Glaciers. Lands southeast of the Alsek River would be added to what is now the Glacier Bay National Monument which is proposed to be upgraded to national park status.

In terms of the status of lands in the immediate Yakutat area which may be required for industrial development in the future, the City of Yakutat has determined that industrial uses not related to the community's traditional industries (such as fish processing) would be best located on the south side of Monti Bay. The major land owners here are the State and the Yak-Tat Kwaan although the City has also filed a selection request with the State in this area. The marine service base established by the Shell-ARCO-Mobil (SAM) group on the south side of Monti Bay was located on a privately purchased parcel of land but adjacent acreage

acquired by the Yak-Tat Kwaan, Inc. in a land trade with the State was subsequently leased by the SAM group. Another larger area further to the west on the south side of Monti Bay was (and still is) leased from the Kwaan by a potential LNG plant operator, Pacific Alaska LNG Company, following the 1976 northern Gulf of Alaska oil and gas lease sale.

Aside from lands along the south side of Monti Bay, however, the only oil and gas-related development in the Yakutat area after the 1976 sale was located on State airport property except for ARCO's use of the old White Alice facility near Ocean Cape under an agreement with the Kwaan.

In the larger Yakutat area, the future status of lands not selected by the State (including airport lands) and the Kwaan is not clear and will not be until Sealaska's selections in its region are finalized and until land issues associated with D-2 legislation have been clarified. Thus, it appears likely that potential oil and gas-related operations wishing to locate in this area would have to deal with the Kwaan and/or the State to obtain land suitable for their purposes, at least in the near future. It is also likely that land obtained from either source would be available only for lease, not purchase.

HOUSING

At the time of Alaska Consultants' 1976 land use survey carried out in connection with the preparation of the Yakutat Comprehensive Development Plan (December 1976), a total of 2.5 hectares (30.6 acres) of land within Yakutat's corporate limits was occupied by residential uses. The

same survey counted 135 dwelling units within Yakutat's corporate limits, all of which were in single family residences except for a six-plex and six units of elderly housing attached to the health clinic. Sixteen of these single family units, however, were in the form of trailers.

A tabulation of dwelling units in Yakutat's road-connected area outside town by Alaska Consultants (September 1978) in 1977 counted another 32 units. By type, these were made up of 4 single family homes, 7 multifamily units and 21 trailers. In addition, 13 units of group housing associated with the Coast Guard's Ocean Cape Loran station were counted outside town. Thus, all told, a total of 180 units were counted in the Yakutat road-connected area (see Table 16). All of these units were at least seasonally occupied. The only vacant units in the Yakutat road-connected area in 1976 and 1977 were uninhabitable and therefore they were not counted.

Most housing units in the City are concentrated in two areas at the head of Monti Bay, one in the north and the other in the central section of town. These are Yakutat's two oldest residential areas although the north end of town has recently seen a good deal of new housing construction. A third older residential area is located off Airport Road in the south end of town near the garage.

Two completely new residential areas have been added in Yakutat since 1971. These are the ASHA subdivision off Situk Road past the school and the Tlingit and Haida housing area on the Mission property. In addition,

TABLE 16
HOUSING INVENTORY
YAKUTAT ROAD-CONNECTED AREA
1977

<u>Type of Unit</u>	<u>Condition of Housing Unit</u>				<u>Total Units</u>
	Good	Fair	Poor	Very Poor	
Single family	60	27	12	12	111
Mul ti fami ly	12	7	0	0	19
Trail ers	23	13	1	0	37
Group housi ng	0	13	0	0	13
<u>TOTAL</u>	<u>95</u>	<u>60</u>	<u>13</u>	<u>12</u>	180

Source: Alaska Consultants, Inc. September 1978. City of Yakutat,
Capital Improvements and Services Program. Anchorage.

some more scattered residential development has taken place along Ridge Road uphill from the Post Office.

Housing conditions in Yakutat have undergone a dramatic improvement since 1971 when the Alaska State Housing Authority estimated that about 70 percent of the community's homes were in a dilapidated condition. A review of housing conditions in the Yakutat road-connected area by Alaska Consultants (September 1978) in 1977 counted 95 units, or close to 53 percent of the total, as being in good condition. These units were described as being new and in need of no major repairs. Another 60 units, or one-third of the total, were judged to be in fair condition, defined as being basically sound but older units in need of some repairs. Thirteen units were classed as being in poor condition, defined as being in need of major structural repair to an extent that the cost involved in bringing them up to standard might not be economically justifiable. And, finally, 12 units were judged to be in very poor condition, defined as being grossly substandard and in need of demolition.

The upgrading of the quality of the Yakutat road-connected area's housing stock since 1971 has been primarily due to projects developed by the Alaska State Housing Authority and the Tlingit and Haida Regional Housing Authority. ASHA constructed 20 units under the Remote Housing Program, with 16 of these units located off Situk Road just past the school. Thus far, the Tlingit and Haida Regional Housing Authority has built 35 single family homes and 6 units of elderly housing here and reportedly plans to add 30 more. Between these two agencies, a total of

58 new homes has been added in Yakutat since 1971. Individually financed housing has also been built during this period, including a **six-plex** and several single family homes and trailers. Most individually financed new single family homes are located off Ridge Road but some have been built in the north end of town and the new **six-plex** is in the south end of town near the garage.

Related to improved housing conditions in Yakutat since 1971 has been the upgrading of the community's utility systems by the U.S. Public Health Service. Virtually **all** residences in town now have a full range of utility services except for the Ridge Road area, most of which is not served by the sewer system. By contrast, at the time of the 1970 census, 73 percent of all year-round units in Yakutat lacked one or more plumbing facilities and 64 percent lacked a flush toilet.

Community Facilities and Services

PUBLIC SAFETY

Police

Yakutat has had local police protection services since 1949 although it has been without a City police officer since 1977. A State trooper is based in the community and there is also a local magistrate. but there is no formal police station nor any jail facilities.

The State trooper lives in town but his office is at the airport in the old FAA (Federal Aviation Administration) teacherage. As the only police officer in the Yakutat road-connected area, he serves areas both in town and outside Yakutat's corporate limits. Previously, when the City had a part-time municipal police officer, the trooper was theoretically responsible only for the areas outside town. However, he often assisted the local policeman.

Serious crime is virtually unknown in Yakutat. Like other areas of the State, most crime that does occur is related to excessive alcohol consumption. The law enforcement burden in the Yakutat area is generally light and the City has no immediate plans to hire another local police officer although it would prefer the State trooper's office to be located in town.

During the period when exploratory drilling offshore was underway between September of 1976 and mid-1978, no unusually severe law enforcement problems were encountered in the Yakutat area. In part, this was undoubtedly due to the close cooperation which existed between industry and the City of Yakutat. Onshore demands were minimized by shuttling rig and platform crews on a periodic basis directly to and from the airport and by scheduling crew changes to coincide with scheduled main line air service. In addition, the access of service boat crews to the community was curtailed and almost all of the 30 people employed at the marine service base during the peak of exploration activity were local residents. As a result, transient crews spent very little time in the

community and potential law enforcement problems were thus generally avoided.

The City of Yakutat has no firm plans to upgrade local law enforcement services. It has recently been successful in obtaining a grant from EDA (Economic Development Administration) for renovating the fire hall (the old high school gymnasium) and had considered further expanding this building to include office space for a police officer and four holding cells for prisoners. However, such facilities are now considered to be necessary only if rapid population growth, such as that resulting from oil and gas development or from the successful local establishment of a deep sea fishing and fish processing industry, takes place. In such a case, according to the City's capital improvements program, it is more likely that all public safety functions, including space for a State trooper, would be incorporated into a new City Hall complex.

Fire Protection

Yakutat's 14-man volunteer fire department was formally established in August of 1973. Firefighting equipment is currently limited to a 1974 model fire truck with an 870.6 liter (230 gallon) tank and a 1,135 liter (300 gallon) per minute pump plus a 2.5 horsepower gas-operated portable pump. However, the City's firefighting capabilities are scheduled to be upgraded in October 1978 with the arrival of a new fire truck. The new vehicle is a 3,785 liter (1,000 gallon) per minute pumper with a 3,785 liter (1,000 gallon) tank on board.

The municipal fire department provides service within Yakutat's corporate limits and, when possible, also to outlying road-connected areas.

Additional firefighting capability is available at the airport where the FAA has a 1960 model 1,892 liter (500 gallon) per minute pumper and the State Department of Transportation and Public Facilities maintains a crash truck.

The fire hall is located in the old high school gymnasium next to City Hall. This structure was upgraded in 1976 to house the present fire truck and the City ambulance and will be further upgraded during the fall of 1978. The City recently received an EDA grant for this purpose and will use the funds to repair the roof, add insulation, make improvements to the interior of the structure and add a couple of big bay doors for use by the new fire truck.

Water sources used for firefighting in Yakutat are 24 hydrants and several streams and ponds. The community currently has an Insurance Services Office class rating of 10 for insurance purposes. This is the worst possible rating. In view of the major upgrading of Yakutat's housing stock which has taken place during the past few years as well as major improvements to the community water system and fire department, a rating of 10 seems unjustified today. Yakutat was visited by an Insurance Services Office representative in August 1978 and the City is hopeful that a better rating will result.

Yakutat has had several serious fires in the past few years although there is little danger of a single fire destroying a number of buildings in the community as development is generally fairly scattered. Major fires included the FAA apartments at the airport and one which damaged the interior of the Alaska Native Brotherhood (ANB) hall. However, the most serious was the May 13, 1977 fire which destroyed the Yakutat cold storage plant except for the ice house and dock. The entire plant could well have been lost without the assistance of two supply boats from the marine service base. Even so, this fire has had a major adverse impact on Yakutat's economy.

HEALTH AND SOCIAL SERVICES

Compared with most Alaska communities of its size, Yakutat has a good range of health and social services. It has a health clinic and an active alcoholism program. However, it does not have a hospital, nor does it have a resident doctor, dentist or registered nurse. Instead, local residents normally travel to Juneau, Sitka or Anchorage for medical or dental services.

The Yakutat health clinic is located in the central portion of town and has six attached units of elderly housing. This facility was completed in June 1974 under the joint sponsorship of the Tlingit and Haida Regional Housing Authority and the City of Yakutat and is presently rented by the U.S. Public Health Service,

Facilities in the clinic include two examination rooms, an office/examination room, a reception area, an X-ray unit and two beds, plus emergency equipment and dental equipment. Staffing consists of a director, a secretary, a physician's extender and health aide, all of whom are full-time employees. A State health nurse based in Haines and Public Health Service doctors and dentists from Mt. Edgecumbe (Sitka) use the health clinic facilities during their periodic visits to Yakutat. However, the bulk of the day-to-day health care is provided by the physician's extender and the health aide. According to health clinic personnel, the clinic averaged about 250 health patient visits and around 75 mental health patient visits per month during the summer of 1978 although these numbers fall off in the winter when transient residents have left town.

In addition to the health clinic, health-related services in the community are provided through the Yakutat alcoholism program. This program is staffed by a director and an aide, both of whom are full-time employees and who operate out of the old City school on Bayview Drive. Services primarily consist of education programs, counseling and referral, plus occasionally sending people to Juneau for detoxification.

Yakutat's health clinic has added a new dimension to the range of medical care available in the community. Routine medical needs can now be handled locally by trained personnel and the daily monitoring of the condition of some of the town's older people means that they can stay in the community near their families and friends rather than being

hospitalized in Juneau or Sitka. Nevertheless, despite superior airline service for a town of this size, Yakutat is still relatively isolated and an even higher level of local medical care is evidently desired by community residents.

In a March 1975 socio-economic survey conducted by Alaska Consultants, Inc., Yakutat residents were asked to rank the relative importance of thirteen potential additions or improvements to the community. Three of these related to medical care. The addition of a local practicing doctor was considered to be very important by 41 of the 50 people interviewed, with the addition of a local practicing dentist and a community hospital being ranked as very important by 36 and 32 people respectively. Yakutat's population is currently much too small to justify the addition of a hospital, doctor or dentist. However, it is significant that the only other potential addition or improvement to the community which was ranked close in importance was a bank, a facility which has since opened in Yakutat.

EDUCATION

As a first class city, Yakutat is also a school district and is thus responsible for constructing, maintaining and operating its own public school system. The local school district serves the entire Yakutat road-connected area but is reimbursed by the State for providing education services to children living outside town. In addition, the State provides bus service for children from outside town who attend school in Yakutat

and for City students attending classes at the former FAA school at the airport.

Administratively, the Yakutat public school system is divided on an elementary (kindergarten through the 6th grade) and high school (7th through the 12th grade) basis. Until 1967, there were two separate school systems in the Yakutat area. A State-operated school at the airport mainly served white children of FAA and Weather Bureau employees while the City school located in town on Bayview Drive served mostly Indian children. However, the two systems were formally combined in 1967, with half of the elementary school children in the area attending classes at the former FAA school and all other students attending school in town.

In 1973, the State constructed a new high school on an 8.1 hectare (20 acre) site off Situk Road near its junction with Airport Road. The structure was designed as a high school to serve 80 students and includes seven classrooms, a gymnasium, a small library, a kitchen, three offices and a teachers' lounge. However, as soon as this new facility was occupied, the old City school was condemned by the State Fire Marshal and the new building was thus forced to accommodate elementary as well as high school students. Today, students in kindergarten and the first and second grades attend classes at the old FAA school while all other classes are held at the main school site although three are held in portable rooms which were moved here from the old City school.

The City of Yakutat and the Yakutat School District have long been aware of the inefficiency of having an elementary school plant physically split between two sites. In addition, the necessity for elementary and high school students to share recreation activities and facilities such as restrooms and lunch rooms has reportedly caused some difficulties. To correct this situation, \$1,920,000 for a new elementary school was included in a November 1976 State bond issue. These bonds were approved by State voters and a new elementary school is currently being constructed on the main school site, with occupancy scheduled for December 1978.

Elementary School Facilities

As of September 1978, the Yakutat elementary school occupied a total of five classrooms although one of these classrooms is capable of being divided into two rooms as needed. Two elementary classrooms at the old FAA school house kindergarten through the second grade students, grades 3 and 4 share a room in the high school and grades 5 and 6 share another room (which can be divided into two classrooms) in this building. Special education classes are held in a portable classroom.

As indicated previously, existing elementary school facilities in Yakutat are seriously inadequate. Not only are there problems with the physical plant but classes are overcrowded. With a final enrollment of 91 students housed in five classrooms in 1977-78, the elementary school averaged 18 students per room. This is more than desirable in a small school system, especially when a single teacher must handle more than one grade at a time.

Elementary school enrollments in Yakutat have not changed significantly during the past twenty years (see Table 17). Kindergarten classes were not offered until the 1970-71 school year and, when the prior absence of these students is considered, trends in enrollment for elementary pupils have remained relatively flat despite a healthy rate of increase in the total population of the Yakutat road-connected area since 1970. This is believed to be primarily due to an increase in the proportion of whites (who as a group have fewer dependents than Alaska Natives) and also to the fact that here, as in much of the rest of the nation, a decline in the birth rate has taken place.

Completion of the new elementary school will greatly improve Yakutat's elementary school facilities. The new school will be a two story structure with ten teaching stations and five classrooms. However, all classrooms will be capable of being divided into two rooms, each 46.45 square meters (500 square feet) in area, which will provide a degree of flexibility not previously available. The new structure will also include a library, an elementary-size multi-purpose room with a permanent raised stage and a scaled down basketball court suitable for use by elementary students, a 7.6 by 15.2 meter (25 by 50 foot) swimming pool for use by all students and for after school hours use by the community at large, a kitchen serving both the elementary and high schools, plus space for offices and a faculty lounge/workroom area. The design of the multi-purpose room is such that the raised stage will also serve as an observation area for the pool.

TABLE 17
ENROLLMENT TRENDS a/
YAKUTAT SCHOOL SYSTEM
1959/60 - 1977/78

School Year	Final Enrollment					Average Daily Membership
	Grades K - 6		Grades 7 - 12		Total	
	Number	% of Total	Number	% of Total		
1959/60 <u>b/</u>	61	81.3	14	18.7	75	73
1960/61 <u>b/</u>	62	82.7	13	17.3	75	77
1961/62 <u>b/</u>	76	81.7	17	18.3	93	90
1962/63 <u>c/</u>	68	73.9	24	26.1	92	94
1963/64 <u>d/</u>	81	81.0	19	19.0	100	
1964/65 <u>d/</u>	84	79.2	22	20.8	106	111
1965/66 <u>b/</u>	91	87.5	13	12.5	104	105
1966/67 <u>b/</u>	75	75.8	24	24.2	99	103
1967/68 <u>e/</u>	56	57.7	41	42.3	97	97
1968/69	68	63.0	40	37.0	108	107
1969/70	61	62.2	37	37.8		92
1970/71 <u>f/</u>	73	64.0	41	36.0	114	115
1971/72 <u>g/</u>	74	59.2	51	40.8	125	126
1972/73	77	60.2	51	39.8	128	128
1973/74 <u>g/</u>	93	60.4	61	39.6	154	150
1974/75 <u>g/</u>	86	58.1	62	41.9	148	155
1975/76	83	56.5	64	43.5	147	148
1976/77	90	60.0	60	40.0	150	151
1977/78	91	55.2	74	44.8	165	165

- a/ Enrollment figures for Yakutat FAA and Yakutat City School District combined through 1967 when the two school systems were merged.
- b/ Grades 1 - 8 classes taught.
- c/ Grades 1 - 9 classes taught.
- d/ Grades 1 - 10 classes taught.
- e/ Complete high school program offered for the first time.
- f/ Kindergarten program initiated in 1970/71 school year.
- g/ Special education or ungraded students included in elementary enrollment figures.

Source: Alaska Department of Education, Division of Management and Finance, Statistics Section.

Once the new elementary school has been completed, the old State-owned FAA school will no longer be used for education purposes. Thus, all elementary schoolchildren in the Yakutat road-connected area will attend school in a single location.

High School Facilities

In September 1978, the Yakutat high school occupied a total of seven classrooms plus a room for shop. Four of these rooms are in the main school building, two rooms (one of which is used for special education classes) are in portable units and one occupies a portion of the shop. (The remainder of this metal structure is used for shop courses).

Aside from problems associated with having to share facilities with the elementary school, a major problem with the high school is inherent in its design which embodies an "open classroom" concept. According to the school superintendent, this type of design has proved impractical in Yakutat because it is associated with high noise levels and because it creates problems for building security and janitorial service. The latter is further complicated because of the heavy use which the school building receives after school hours.

Since the introduction of a full high school program in 1967-68, secondary school enrollment in Yakutat has shown a significant increase. Between 1967-68 and 1977-78, final enrollment rose from 41 to 74 students, an increase of about 80 percent. While some of this growth may have been

related to a general growth in the total population of the Yakutat area, it is also at least partly due to the fact that not all students elected to complete their schooling locally when a complete high school program was initially offered in Yakutat.

With a final enrollment of 74 students in seven classrooms in 1977-78, the Yakutat high school averaged between 10 and 11 students per room. This is a very low classroom density but all of these rooms are needed to house the six high school grades and to offer the range of courses required of even small high schools if they are to provide their students with a well rounded education program.

An unusual program offered by the high school is Yakutat's TV station, K02ID-TV, which is operated out of the school office by students and which features live programming such as the news and home basketball games as well as taped programs. Television was introduced in Yakutat for the first time in December 1975 and here, as elsewhere, it has proven to be an extremely popular form of home entertainment as well as providing local high school students with valuable experience in the broadcasting field.

Once the new elementary school is completed, the Yakutat high school will have sole occupancy of the existing building, including the gymnasium. According to the school superintendent, the portable units will be used primarily for storage since the useful life of these structures for education purposes is essentially over. However, two additional classrooms .

for special education are already needed and an addition to the main building has been scheduled in the community's current capital improvements program (September 1978) for FY 1983/84.

RECREATION

The Yakutat area offers a **wealth** of outdoor recreation experiences which attract visitors as well as local residents. However, like most small Alaska communities, Yakutat has a limited number of formal recreation facilities except for those associated with the schools.

The provision of indoor recreation facilities is especially important in a community which averages .01 inches or more of precipitation on 230 days of the year and where the ground is snow covered during the winter months. Formal indoor recreation facilities are currently limited to the high school gymnasium and the Alaska Native Brotherhood (ANB) hall, although movies shown at the Coast Guard station and dancing at the Glacier Bear Lodge are popular indoor recreation activities. However, Yakutat's range of indoor recreation facilities will soon be upgraded with the scheduled addition of a second gymnasium and a swimming pool in December 1978 as part of the new elementary school complex. (These new facilities are described in greater detail in the Education section of this chapter.)

The high school gymnasium was constructed in 1973 and receives a great deal of use not only by schoolchildren but also by the community in

general. It is heavily used for basketball practice sessions and games by both students and adults and is also used for volleyball, exercise classes and a range of other activities.

The ANB hall is located on Bayview Drive near the old cannery and is mainly used by the town's older Tlingit residents for meetings, social events and for ceremonial occasions. Use of this structure has been restricted during the past few years because of fire damage. However, the City of Yakutat has been successful in obtaining a grant from EDA which will be used to demolish one end of the building which was severely burned, to clean up the interior, to install insulation and new windows, and to repair the roof. Although not strictly a public facility, the ANB hall serves the leisure needs of a segment of Yakutat's population and it is important that these needs continue to be met. Using a portion of this building as a day care center is also being considered.

Existing outdoor recreation facilities in the Yakutat area include the City playground on Bayview Drive in front of the old school, an outdoor basketball court in the Alaska State Housing Authority (ASHA) housing subdivision off Situk Road, and the Cannon Beach picnic area. The City's playground equipment is currently inoperative but the City acquired new swing, slide and gym set equipment in 1978 which it plans to install at this site and also in the ASHA housing subdivision where it developed a concrete basketball court in 1978. The Cannon Beach picnic area is located at Ocean Beach about 3.2 kilometers [2 miles) west of the airport and is maintained by the Forest Service. Facilities here include two fire rings, a picnic table and a shelter.

Aside from the gymnasium and swimming pool facilities scheduled to be added in December 1978, the City of Yakutat plans to further improve the level of recreation facilities in the local area. According to the City's current capital improvements program (September 1978), these plans include conversion of the present City Hall for use as a community recreation center; relocating the playground in front of the old school to a site in front of the present City Hall; development of a playground in the north end of town and an athletic field at the main school site; establishing a community park at Sandy Beach and a picnic/camping area at Shipyard Cove; and rehabilitation of the old boat harbor trail system.

Conversion of the present City Hall to a recreation center equipped with pool tables, card tables, a ping pong table, a television set, reading chairs and other furnishings has been recommended to take place once a new City Hall has been constructed, estimated in the capital improvements program to take place FY 1981/82. Relocation of the existing City playground to an approximately 650.3 square meter (7,000 square foot) area in front of the proposed recreation center has been scheduled for the same year.

Development of a playground in the northern area of the town is scheduled to take place in FY 1978/79 according to Yakutat's current capital improvements program. A good deal of residential development has recently taken place in this area and an approximately 232.3 square meter (2,500 square foot) site behind the old mission house has been recommended to

be developed for playground purposes. By contrast, a school athletic field was deemed to be of much lower priority and was given a "deferred" status in the current capital improvements program.

The Sandy Beach area was acquired by the City of Yakutat from the Atlantic Richfield Company (ARCO) and the Shell Oil Company in 1977 as part of its share of the old Ocean Cape cannery lands. Sandy Beach had traditionally been a community recreation area and a site to beach small fishing boats. The current capital improvements program has recommended that the site be developed in FY 1980/81 to accommodate traditional recreation uses and to include space for picnicking and a tiny tots wading pool. Shipyard Cove is located north of the small boat harbor and has been recommended to be developed as a picnicking area in FY 1983/84 in the current capital improvements program. If Yakutat is eventually connected to a future Cross-Gulf ferry route, this site could also be used to accommodate camper traffic.

Rehabilitation of the old boat harbor trail system leading between the main part of town and the small boat harbor is a project which has generated local interest in Yakutat. Youth Conservation Corps workers brushed out sections of this trail in 1978 but complete restoration of the route has not been scheduled in the current capital improvements program until FY 1982/83.

Because a major share of the recreation activities in which Yakutat residents participate does not depend on the presence of formal facilities,

TABLE 18
RECREATION PARTICIPATION RATES a/
YAKUTAT HOUSEHOLDS

Recreation Activity	Participation Rate		
	Often %	Sometimes %	Never %
Motorcycling	12	34	54
Downhill skiing	2	12	86
Cross-country skiing	12	40	48
Walking	60	30	10
Basketball	32	40	28
Snowmobile driving	28	32	40
Hunting	34	46	20
Fishing	64	32	4
Ice fishing	6	16	78
Picnicking	38	50	12
Visiting friends or relations	50	36	14
Sewing	46	40	14
Carving	8	30	62
Carpentry	30	42	28
Other arts and crafts	26	46	28
Listening to records or tapes	76	18	6
Skating	2	64	34
Dancing	26	54	20
Boating	38	54	8

a/ Participation rates derived from a survey of 50 households in the Yakutat road-connected area.

Source: Alaska Consultants, Inc. March 1975. **Socio-Economic Survey** of the Yakutat Area, prepared for the City of Yakutat. Anchorage.

Alaska Consultants, Inc. (March 1975) attempted to measure participation rates of local adults in a range of leisure time activities (see Table 18). Of these, people in 90 percent or more of the households surveyed went fishing, listened to records or tapes, walked for pleasure or went boating either often or sometimes; while 75 to 89 percent visited friends or relatives, sewed, hunted or went picnicking or dancing at least sometimes. Today, watching television would also rank high but this service was not available in Yakutat until later in 1975. Except for dancing, none of the most popular recreation-related activities in Yakutat in 1975 depended on the provision of formal facilities.

Outdoor recreation activities in the Yakutat area, especially hunting and fishing, attract outsiders as well as local residents. These activities and their impact on the local economy are discussed in the Sector Analysis section of this chapter.

UTILITIES

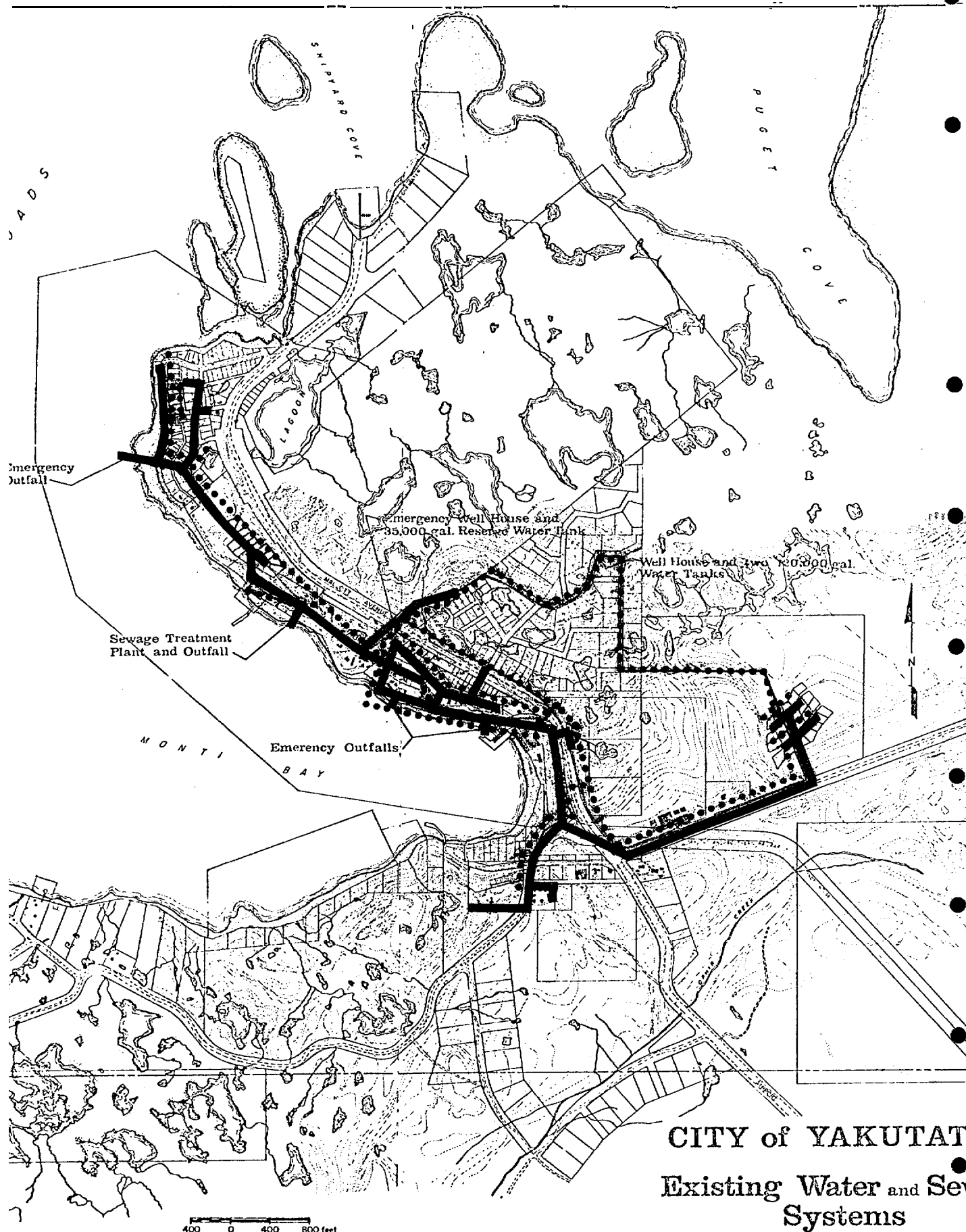
Water

Compared with many Alaska communities of a similar size, Yakutat is fortunate in having a good basic water system which serves most of the developed area of town. Within Yakutat's corporate limits, only two major areas are not connected to the community water system. These are the small boat harbor area and the industrial area on the south side of Monti Bay. However, the marine service base has its own water supply,

as do other scattered enclaves of development in the greater Yakutat area such as the Glacier Bear Lodge, the Coast Guard station and the airport (see Figure 7).

Yakutat's community water supply comes from a well on Ridge Road, uphill from the Post Office. This well was drilled in 1972-73 and pumps about 10.9 liters of water per second (160 gallons per minute). The water is treated and pumped to two adjacent water tanks, each with a capacity of 454,200 liters (120,000 gallons), and then enters the distribution system by gravity flow. A second well is located next to the health clinic. This well was drilled around 1960 to serve the old City school although its use was subsequently expanded in 1964 to serve the entire town when the original community water system was installed. Today, water from this well is stored in an elevated 132,475 liter (30,000 gallon) tank and serves as an emergency reserve for the community.

According to the U.S. Public Health Service's Office of Environmental Health, typical residential water usage in Southeast Alaska communities such as Yakutat is in the .0631 to .105 liter (60 to 100 gallon) per day range. However, Yakutat's fishing and fish processing industry also consumes large quantities of water. According to the Public Health Service, peak consumption when both processing plants are operating is in the vicinity of 870,550 liters (230,000 gallons) per day, close to the system's normal storage capacity.



Yakutat's basic water system dates back to 1963-64 when the area immediately north of the old cannery through the Mission property to the north end of town was first served. In 1972-73, the present well was developed, a new pump house was built, additional distribution lines were installed and a 454,200 liter (120,000 gallon) storage tank was constructed. A second 454,200 liter (120,000 gallon) storage tank was added in 1974 and the system was further expanded in 1975 to serve new housing built by the **Tlingit** and Haida Regional Housing Authority.

Since the addition of the second 454,200 liter (120,000 gallon) tank, which was needed so that the water demands of both the community and the cold storage plant could be met at the same time, Yakutat has experienced few problems with its water system. The system has 24 hydrants and most lines are 6 inches in diameter except for the 8 inch main which follows Ridge Road downhill from the storage tanks.

Yakutat's basic water system was designed and constructed by the U.S. Public Health Service (PHS) although EDA provided funds for the construction of lines to the cold storage plant and the ASHA housing area, and also for the second 454,200 liter (120,000 gallon) water storage tank. An important feature of the Yakutat system and others developed by PHS is that it is primarily a residential system. The basic philosophy behind PHS involvement in sanitation facilities programs in predominantly Alaska Native **communities** is not to build community water systems so much as it is to provide safe and potable water to Alaska Natives as a means of upgrading Native health levels. As a

result, in a community like Yakutat which also has major industrial water users, participation by EDA was needed to satisfy total community water demands.

The marine service base is not connected to the community water system. According to ARCO spokesmen, two wells were drilled to meet that facility's needs, one to about 21.3 meters (70 feet) and the other to about 39.6 meters (130 feet) on nearby lands leased from the Yak-Tat Kwaan, Inc. The City of Yakutat has proposed an intertie between the City and service base systems. According to ARCO spokesmen, the City would be able to pump at a rate of 15.8 liters per second (250 gallons per minute) from this source, which would certainly give the municipal system a good deal more flexibility as needed and could also assist in lowering fire insurance premiums. Although some details of an intertie remain to be worked out, they are not believed to be insuperable and this project has been included in the City's current capital improvements program for FY 1978/79.

The City of Yakutat also has other immediate plans for upgrading its water system. A 15.2 centimeter (6 inch) line is planned to be extended via Alder and Third Streets and Bayview Drive in the north end of town in the fall of 1978 so that all residences in this area will be connected to the community water system. At least two hydrants will be added as part of this project. Furthermore, the City plans to run a summer line to the small boat harbor in the very near future to meet the needs of fishermen and recreational boaters.

According to Yakutat's current capital improvements program, a short extension of the water system along **Ankau** Road to serve a few residences not currently on the system is scheduled for FY 1979/80. A much larger extension of the water system along **Situk** Road is foreseen only in the event of substantial community growth such as that resulting from offshore petroleum or deep sea fishery development.

Sewer

Like its water system, **Yakutat's** sewer system was developed by the U.S. Public Health Service (**PHS**). Seepage pits were installed for individual homes in 1964 when the community water system was originally constructed but they proved unsatisfactory. The present **grav**'ty flow system dates from 1972 and serves essentially all areas within Yakutat's former corporate limits. Major additions to the system were undertaken in 1975 to serve the **Tlingit** and Haida housing and the old FAA housing areas while a minor extension on Bayview Drive at the north end of town was built in 1977. The only major residential area in town not connected to the system lies uphill from the Pond residence on Ridge Road (see Figure 7).

Distribution lines are generally 20.3 centimeters (8 inches) in diameter and the system has four lift stations, the latter being necessitated by changes in grade. At the time the Yakutat Comprehensive Development Plan (December 1976) was prepared, there were about 130 hook-ups to the system.

Secondary treatment of non-industrial wastes is provided in Yakutat.

The sewage treatment plant was built by PHS in 1972 and is located along the beach between the cold storage plant site and City Hall. This facility has a design capacity of 113.5 kiloliters (30,000 gallons) per day or, expressed differently, a capacity of 280.09 liters (74 gallons) per person per day. However, the system occasionally becomes hydraulically overloaded when people leave their taps running to avoid line freeze-ups and flows through the plant have reached as much as 132.5 to 151.4 kiloliters (35,000 to 40,000 gallons) per day. In relation to the City's 1977 population, this rate of usage amounts to between 325.5 and 374.7 liters (86 and 99 gallons) per capita per day.

Industrial wastes from Yakutat's seafood processing plants do not enter the sanitary sewer system, nor does the City envisage that they will do so in the future. The marine service base is also not connected to the City sewer system; however, it has its own sewage treatment facility. The airport area also has its own sewage system and the FAA maintains a sewage lagoon there.

The City of Yakutat intends to extend sewer lines to the same areas it plans to extend water service except that no line to the marine service base is seen to be required. In the case of substantial community growth such as that resulting from offshore petroleum or deep sea fishery development, upgrading of the sewage treatment plant is also seen to be necessary according to the City's current capital improvements program. For "normal" community growth, however, present overloading

problems can be overcome without expanding the capacity of the treatment plant.

Electric Power

Electric power in Yakutat has been provided by a private company, Yakutat Power, Inc., since the system was purchased from the City in 1966. All power is diesel-generated. In 1977, there were about 185 hook-ups to the system which serves customers throughout the road-connected area, including the airport and the Coast Guard station as well as those in town. Two major users, however, are not connected to the system. They are the cold storage plant (whose power house survived the May 1977 fire) and the marine service base. The latter has three diesel units with a combined peak power capacity of 950 kilowatts. However, only one unit is currently being used.

The power plant is located at the corner of Situk and Airport Roads and houses four diesel units with a combined peak power (or nameplate) capacity of 2,025 kilowatts (kw) and a firm power capacity (peak power capacity minus the largest generating unit) of 1,225 kw. Taking the population of the entire road-connected area, the Yakutat power plant thus has an installed per capita capacity of 3.6 kw of peak power and 2.2 kw of firm power. According to Yakutat Power, Inc., community requirements in 1976 were for 500 kw of firm power and 725 kw of peak power. However, kilowatt-hour (KWH) sales have more than doubled since 1970 (see Table 19). The addition of a new elementary school will

TABLE 19
SUMMARY OF YAKUTAT POWER, INC. OPERATIONS
1970, 1975 AND 1977

	<u>1970</u>	<u>1975</u>	<u>1977</u>
Number of Customers	95	152	185
Kilowatt-Hour Sales	1,962,165	3,206,065	4,092,202
Operating Revenues	\$ 131,219	\$ 278,310	\$ 363,798
Operating Expenses	\$ 82,767	\$ 215,803	\$ 324,693
Net Revenues	\$ 48,452	\$ 62,507	\$ 39,105

Source: Alaska Public Utilities Commission, Consumer Protection Division.

result in a further significant increase in power consumption and the operator is reportedly considering purchasing a 1,200 kw generating unit to handle anticipated increases in demand.

The Yakutat Power, Inc. properties were inspected by R.W. Beck and Associates for the Tlingit and Haida Regional Electrical Authority in 1976. This firm described the properties as follows:

"The electric utility properties of Yakutat Power consist of a power house, four diesel-electric generating units and accessories with nameplate capacity of 2,025 kilowatts, step-up station transformers, poles, overhead and underground conductors, line transformers, services and meters. General plant, consisting of office equipment, rolling stock, tools and shop equipment are also included.

We have made a broad examination of the properties and, except for the generating units, believe them to be in fair to good condition. Continuous upgrading of older facilities acquired from the city was observed. Yakutat Power has constructed an underground service to a Coast Guard station with an advance of funds by the government which is being repaid as a percentage of power bills. Involved in and necessary to the distribution of power and energy to some of Yakutat Power's customers, including the Federal Aviation Administration (FAA) is a certain line of nearly five miles in length which is owned by and leased from the FAA. . . .

With respect to the generating units, we have not made an inspection of their internal condition. Two of the units are of 1966 vintage and we understand that it is now difficult to obtain parts for them. Two of the units were new in 1973 and appear to be in good condition. Overall efficiency of the plant in 1975 resulted in nearly 12 kilowatt-hours of generation per gallon of fuel oil, which may be considered good."

The electric power distribution system was substantially upgraded during 1977 and 1978. A new transmission line to the RCA receiver site was installed in 1977 and old lines elsewhere in town were replaced as needed.

Yakutat's power system is basically a good one. However, diesel power has a major disadvantage compared with other systems in that operating costs are high. These costs have accelerated since the fuel crisis and have, in turn, been passed on to consumers. For example, a typical residential household will consume somewhere in the area of between 800 and 1,000 kilowatt-hours per month, excluding heat. As of September 1978, this would cost between \$79.59 and \$97.86 in Yakutat (including a .636¢ per KWH fuel cost rate adjustment charge). In Anchorage, where natural gas is the primary power source, the same amount of residential power furnished by the Municipality costs between \$25.68 and \$31.26 (including a \$3.36 minimum monthly charge) or, about one-third that paid by Yakutat residents. Although the Anchorage system has obvious economies of scale, the difference in the source of power is a significant factor in the wide disparity in power costs.

Solid Waste Disposal

The City of Yakutat has contracted with the Yakutat Disposal Company for garbage collection services since 1973. Garbage is picked up once a week by a new packer-type vehicle and is taken to a sanitary landfill site off Situk Road about 2.4 kilometers (1.5 miles) from town.

Until about a year ago, the Yakutat landfill site was operated by the Alaska Department of Transportation and Public Facilities as a condition imposed by the Forest Service for use of the site as a source of gravel. Responsibility for this facility has since been assumed by the City of

Yakutat although the City would prefer to contract out the actual operation of the landfill. The City and the Alaska Department of Environmental Conservation are currently working out the final details of the City's solid waste management permit which is being held in abeyance until October 15, 1978.

The Yakutat dump is one of the better landfill sites in the Gulf of Alaska region in that it is dry, well drained and reasonably close to town. According to the Alaska Department of Environmental Conservation, the landfill site is capable of being physically expanded and should continue to serve the City's needs for the next few years.

Communications

Since 1965, telephone service in Yakutat has been provided by the Southeast Alaska Telephone Company, a firm which has its Alaska headquarters in Sitka. A new central office switching building was completed in 1978 on a site near the RCA earth station on the south side of Monti Bay and telephone service is provided throughout the Yakutat road-connected area.

As of August 31, 1978, there were 192 main stations (i.e. 192 telephone numbers) in Yakutat plus 67 extension lines. In addition, several corporations use leased cable facilities. As of August 31, 1978 there were 192 main stations (i.e. 192 telephone numbers) in Yakutat plus 67 extension lines. In addition, several corporations use leased cable

facilities. Using the 1977 figure of 180 housing units in the Yakutat road-connected area, a current ratio of approximately 1.07 telephones per dwelling unit can be inferred.

The new exchange is capable of accommodating 400 lines, with 320 currently available. This is a major improvement over the old system which had a capacity of only 120 stations. Furthermore, the new exchange has been designed so that it can be easily expanded as the need arises.

Until very recently, Yakutat had no local radio or television station and, because of the mountain barriers separating this community from other Alaska towns, it was unable to receive even radio signals much of the time. However, television was introduced in Yakutat in December 1975 with the station operated by high school students. The community still has no radio station but one will be added by a church group in the very near future.

Local Government Organization

Yakutat was incorporated in 1948 and, until recently, was classified as a second class city under Alaska law. However, with the reorganization of Alaska municipalities into three classes - home rule, first and second class - most former second class cities were reclassified as first class municipalities. This was the case with Yakutat which is now a first class city.

Yakutat presently has a mayor-council form of government. The council consists of six councilmen and a mayor elected at large. However, the City has been advertising for a city manager and plans to change to a council-manager form of government where the manager directs the day-to-day operations of the city with policy direction from the mayor and the council.

CITY POWERS

As a first class city under Alaska law which is not within an organized borough, Yakutat has the full range of powers allowable for a municipality of its class. These include the following three major powers not shared by second class cities:

- A first class city outside an organized borough may levy property taxes up to 30 mills (or 3 percent of assessed valuation) without a referendum whereas second class cities may tax only up to 5 mills and must first have voter approval;
- o As a first class city outside an organized borough, the City of Yakutat is also a school district and thus has the responsibility for establishing, maintaining and operating a system of public schools;
- o All first class cities elect their mayors at large. The mayor has the veto power which can be overridden by not less than three-quarters of the councilmen and he only votes in the case of a tie. This is unlike a second class city where the mayor

is elected by and from the council and has no veto power although he/she has a vote equal to that of each other council member.

The City of **Yakutat** has assumed a wide range of powers as provided for in Chapter 48 of Title 29 of the Alaska Statutes. In addition, it has assumed responsibility for the operation of most public facilities and services listed in AS 29.48.030, plus those required to be assumed by cities outside organized boroughs as per Chapter 43 of Title 29 (Alaska Statutes). However, telephone and electric power services are presently provided by private firms and garbage collection is contracted out to a private company. In addition, the City of **Yakutat** has no municipal police officer or jail facilities and local police protection services are instead being provided by a State trooper. Furthermore, the **Yakutat** airport is operated and maintained by the State and there is no public transportation system in the community.

LOCAL GOVERNMENT FINANCES

Yakutat's most recent audit was reviewed, as were operating revenue sources for the **Yakutat** school system. In addition, data developed by Alaska Consultants, Inc. for the **Yakutat** capital improvements program (September 1978) were incorporated into this analysis.

A review of the full value of property within **Yakutat's** corporate limits as determined by the State Assessor (Alaska Taxable) from 1969

through 1977 (see Table 20) was undertaken. According to the State Assessor's records, the full value of property in **Yakutat** increased a very substantial 1,067.9 percent between 1969 and 1977, with the greatest share of this increase taking place between 1976 and 1977. (Whereas the estimated full value of property in **Yakutat** rose 194.8 percent between 1969 and 1976, it rose 296.1 percent between 1976 and 1977). The **latter** increase was due primarily to the construction of a marine service base on the south side of **Monti** Bay during 1976, with the value of this property being reflected in the \$3,886,610 of oil and gas-related property determined by the State Assessor to be within **Yakutat's** corporate limits in 1977. Thus, oil and gas property in **Yakutat** accounted for slightly more than one-third of the value of **all** property in the community in 1977.

Under Alaska law, first class and home rule municipalities may levy property taxes of up to 30 mills although this **millage** rate may be exceeded if it is applied to debt service. In addition, both first and second class municipalities may levy sales taxes of up to 3 percent. (This limitation does not apply to home rule municipalities while overlapping units of government may each levy sales taxes and thus result in higher local sales tax rates).

A review of property **millage** and sales tax rates at **Yakutat** since the 1971-72 fiscal year indicates that property tax rates have fluctuated significantly here during the past few years (see Table 21). Property tax rates were set at 15 mills between 1971/72 and 1974/75 but dropped

TABLE 20
CITY OF YAKUTAT
COMPARISON OF FULL VALUE DETERMINATION
1969-1977,

(in \$000's to nearest \$1,000)

<u>Year</u>	<u>Full Value Determination</u>
1969	\$ 869
1970	\$ 870
1971	\$ 890
1972	\$ 890
1973	\$ 949
1974	\$1,020
1975	\$1,884
1976	\$2,562
1977	\$10,149

Source: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

TABLE 21

CITY OF YAKUTAT
PROPERTY AND SALES TAX RATES
1971/72 - 1977/78

	Property Tax (mills)						
	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78
Administration	6.00	6.00	6.00	6.00	5.23	20.00	
Schools	<u>9.00</u>	<u>9.00</u>	<u>9.00</u>	<u>9.00</u>	<u>2.00</u>		
<u>TOTAL</u>	<u>15.00</u>	<u>15.00</u>	<u>15.00</u>	<u>15.00</u>	<u>7.23</u>	<u>20.00</u>	<u>13.25</u>

	Sales Tax (percent)						
	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78
Administration	1.75	1.75	1.75	1.75	1.75	1.50 "	
Schools	<u>.25</u>	<u>.25</u>	<u>.25</u>	<u>.25</u>	<u>.25</u>	<u>.50</u>	
<u>TOTAL</u>	<u>2.00</u>	<u>2.00</u>	<u>2.00</u>	<u>2.00</u>	<u>2.00</u>	<u>2.00</u>	<u>2.00</u>

Source: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

sharply in 1975/76 to 7.23 mills, then increased just as sharply to 20 mills in 1976/77. In 1977/78, the mill rate was established at 13.25 and has been set at a slightly higher 13.7 mills for the 1978/79 fiscal year. In 1975/76, property taxes reserved for school support dropped from 9 to 2 mills and, since that time, no property taxes have been earmarked specifically for education purposes.

Yakutat has maintained a constant 2 percent local sales tax during the past seven years. Of this, .25 percent was earmarked for school support through 1975/76 and .50 percent was reserved for this purpose in 1976/77 but none was specified for 1977/78.

An analysis of sources of general government revenues received by the City of Yakutat between 1971/72 and 1977/78 (see Table 22) again indicates that a fundamental change has taken place in this community, essentially all of it between 1976/77 and 1977/78. In earlier years, Yakutat was heavily dependent on intergovernmental and other non-local sources of revenue because the community's tax base was insufficient to support all of its community services. While intergovernmental revenues remain important, the construction of a marine service base on the south side of Monti Bay added a major new taxpayer to the local tax rolls and was the primary reason for a per capita rise in property tax revenues from \$79 to \$286 between 1976/77 and 1977/78. A similarly dramatic gain was also recorded in per capita sales tax revenues from \$52 to \$210 during the same period and for the same reason. As a result, locally generated revenues accounted for over half of Yakutat's general government revenues in 1977/78, whereas they had accounted for under 20 percent in 1971/72.

TABLE 22

CITY OF YAKUTAT
PER CAPITA REVENUES
1971/72 - 1977/78

Fiscal Year	Population	Property Taxes		Sales Taxes a/		Intergovernmental b/ Revenues		Other		Totals	
		Total (\$000)	Per Capita	Total (\$000)	Per Capita	Total (\$000)	Per Capita	Total (\$000)	Per Capita	Grand Total (\$000)	Per Capita
1971/72	190	\$ 4	\$21	\$ 11	\$58	\$28	\$147	\$45	\$232	\$88	\$463
1972/73	227	18	79	12	52	30	132	8	35	70	308
1973/74	227	5	22	11	48	43	189	27	119	86	378
1974/75	351	9	25	13	37	77	219	8	35	107	305
1975/76	348	14	40	17	49	115	330	16	46	162	466
1976/77 c/	442	35	79	23	52	109	246	17	38	184	416
1977/78 c/	405	116	286	85	210	94	232	65	160	360	889

a/ Assumes loss of sales tax to establishments outside the corporate limits and purchases within the City by residents from outside the City are offsetting.

b/ Excludes General Assistance Program of the Bureau of Indian Affairs. Includes Health and Education Fund, Alcoholism Program, Federal Revenue Sharing, Oil Impact Program, and Public Safety Building Grant.

c/ Budget figures.

Source: Alaska Consultants, Inc. September 1978. City of Yakutat Capital Improvements and Services Program. Anchorage.

While general government revenues are now supported primarily by locally generated funds, this is not the case with the Yakutat school district. According to figures supplied by the Alaska Department of Education (see Table 23), less than 2 percent of the operating revenues for this school district in 1975/76 and 1976/77 was derived from local sources. This is consistent with State law which specifies that State aid shall constitute at least 97 percent of a local school district's "basic need". However, basic need is derived from a State formula for minimum educational requirements and, in practice, most Alaska school districts expend a higher proportion of locally generated funds for basic school support,

Not only does Yakutat currently contribute very little in local funds for the support of its school system but it has not had to expend its own funds for school construction. The existing high school and the new elementary school currently under construction were both funded through State bond issues. This is not unusual for small first class cities with limited revenue sources which could experience difficulties in raising funds by traditional means such as the sale of general obligation bonds.

A look at City expenditures during the 1971/72 to 1977/78 period (see Table 24) indicates that operating expenditures rose 325 percent, from a very modest \$64,000 to \$272,000. Despite substantial increases in population during this period, per capita expenditures doubled, from \$336 to \$672. The only expenditure for items of capital outlay took

TABLE 23

OPERATING REVENUE SOURCES
YAKUTAT SCHOOL SYSTEM
FY 1976 AND FY 1977

<u>Year</u>	<u>Local</u>		<u>State</u>		<u>Federal</u>		<u>Other</u>		<u>Total</u>
	dollars	%	dollars	%	dollars	%	dollars	%	dollars
1975-76	\$8,624	1.7	\$492,093	97.3	\$5,189	1.0	---	---	\$505,906
1976-77	\$10,762	1.9	\$550,410	97.0	---	---	\$6,080	1.1	\$567,252

Source: Alaska Department of Education. 1977. Education in Alaska 1976-1977, Report to the People. Juneau.

TABLE 24

CITY OF YAKUTAT
PER CAPITA EXPENDITURES
1971/72 - 1977/78

Fiscal Year	Population	Operating <u>a/</u> Expenditures		Capital Outlay		Debt Service		Total Investment <u>b/</u>	
		Total (\$000)	Per Capita	Total (\$000)	Per Capita	Total (\$000)	Per Capita	Total (\$000)	Per Capita
1971/72	190	\$ 64	\$336	\$	\$	\$ 4	\$ 22	\$ 152	\$ 800
1972/73	227	55	242					3,487	15,361
1973/74	227	57	251					4,348	19,154
1974/75	351	117	333					4,834	13,890
1975/76	348	190	545					4,962	14,258
1976/77 <u>c/</u>	442	184	416						
1977/78 <u>c/</u>	405	272	672	44	109				

a/ School transfers not included.

b/ The bulk of these investments are from State and Federal grants.

c/ Budget figures.

Source: Alaska Consultants, Inc. September 1978. City of Yakutat Capital Improvements and Services Program. Anchorage.

place in 1977/78 when \$44,000 was budgeted for the purchase of a fire truck and, since Yakutat has no outstanding general obligation bonded indebtedness, no expenditures are made for debt service.

A review of Yakutat's overall financial condition indicates that while this community has had to rely heavily on government grant and loan programs to provide the range of municipal facilities and services, it is in the enviable position of having incurred no long term debt (see Table 25). As previously indicated, the Yakutat schools have been constructed by the State, while federal or State funds have also been forthcoming for the construction of the cold storage plant, the community water and sewer systems and the health clinic as well as for smaller projects such as the City Hall. The only outstanding long term financial obligation of the City is revenue bonds for the cold storage plant (see Table 26). However, these bonds are not classed as a debt since their repayment is theoretically covered by revenues which the plant generates. (Although most of the cold storage plant was destroyed in a May 1977 fire and the facility was under-insured, the insurance monies received are more than sufficient to cover the outstanding bonds).

TABLE 25

INDICATORS OF FINANCIAL CONDITION a/
CITY OF YAKUTAT, ALASKA
1977

Population <u>b/</u>	442
Full Value Determination	\$10,149,240
Full Value Per Capita	\$ 22,963
General Obligation Debt	\$ -0-
Total Debt <u>c/</u>	\$ -0-
Per Capita Debt	
General Obligation	\$ -0-
Total	\$ -0-
Debt as Percent of Full Value	
General Obligation	0.00%
Total	0.00%

Guidelines for Per Capita Debt

Direct	\$ 618.48
Overall	\$ 733.93
Percent of Full Value <u>d/</u>	5.50%

a/ All fiscal data for Yakutat current as of 7/1/77.

b/ Population estimate as of 7/1/77 accepted by the Alaska Department of Community and Regional Affairs for municipal revenue sharing purposes.

c/ Total debt excludes \$544,000 in Revenue Bonds outstanding as of 7/1/77.

d/ Median value for selected places of under 10,000 population used by Moody's Investors Services, Inc.

Sources: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

Coopers & Lybrand. October 5, 1977. City of Yakutat, Alaska: Report on Examination of Financial Statements and Supplemental Data for the Years Ended June 30, 1977 and 1976. Anchorage.

Alaska Consultants, Inc. September 1978. City of Yakutat Capital Improvements and Services Program. Anchorage.

TABLE 26

REVENUE BONDS PAYABLE
CITY OF YAKUTAT
JUNE 30, 1977

<u>Dock and Cold Storage Revenues 1970</u>	<u>Date Issue</u>	<u>Interest Rate (percent)</u>	<u>Current</u>	<u>Non-Current</u>
Series A	10/12/72	4.25	\$4,000	\$339,000
Series B	10/12/72	5.75	\$1,000	\$190,000
Series C	10/12/72	5.50	_____	<u>\$15,000</u>
<u>TOTAL</u>			<u>\$5,000</u>	<u>\$544,000</u>

Source: Coopers and Lybrand. 1977. City of Yakutat, Alaska, Report on Examination of Financial Statements and Supplemental Data for the Years Ended June 30, 1977 and 1976. Anchorage.

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CITY OF CORDOVA

Population and Economy

POPULATION

Past Trends

Cordova was founded shortly after the turn of this century as a port serving the Bering River coal fields and the **Katalla** oil field. The community gained permanence following the **Kennicott** copper discovery in the **Chitina** River valley as construction of a railroad was undertaken to connect the mines to tidewater at Cordova. The Bering River coal fields were never developed. After the closure of the **Katalla** oil refinery in 1933, the Kennicott mines in 1938 and the railroad in 1939, Cordova's economy became primarily dependent on fishing and fish processing, a situation which has persisted through the present day.

Cordova's population has remained very stable over the years. The U.S. Census counted only 54 more people in Cordova/Meakerville in 1950 than had been recorded in the immediate Cordova area in 1910. A modest 2.5 percent decline took place between 1950 and 1960 but, since that time, the Cordova road-connected area has experienced healthy rates of growth (see Table 27).

TABLE 27

POPULATION TRENDS
CORDOVA, ALASKA
1950-1978

Year	Population			Percent Change
	Cordova	Meakerville <u>a/</u>	Total	
1950	1,165	41	1,206	
1960	<u>1,128</u>	48	1,176	- 2.5
1970	<u>1,164</u>	349	1,513	28.7
1978			<u>1,755</u> <u>b/</u>	16.0

a/ Area approximating Meakerville was annexed to the City of Cordova in 1972.

b/ City of Cordova's 1978 population estimated by Alaska Consultants to approximate the annual average permanent population in the community based on an average of 3 persons per unit. This figure excluded almost 500 persons living in bunkhouses, in other group quarters and on boats. Including persons living in group housing, the total population of the Cordova road-connected area in 1978 is estimated by Alaska Consultants to be approximately 2,762. This estimate was derived by using a ratio of 2 persons for every job, a ratio which was used previously for this community by Alaska Consultants (February 1976).

Sources: U.S. Department of Commerce, Bureau of the Census. 1971. Number of Inhabitants, Alaska, Washington, D.C. Final Report PC(1)-A3.

U.S. Department of Commerce, Bureau of the Census. 1960. Number of Inhabitants, Alaska. Washington, D.C. Final Report PC(1)-3A.

Alaska Consultants, Inc.

The City of Cordova's population remained fairly stable through 1970. However, the community as a whole experienced a significant amount of growth after 1960 with an increasing share of this growth taking place outside Cordova's former corporate limits. Available buildable land within town has long been in short supply and is also often very expensive to develop. By contrast, much of the area referred to as Meakerville by the U.S. Census but which Cordova people call Old Town is relatively flat. Drainage is often a problem here and platting is at best difficult. Nevertheless, a major amount of growth took place in this area between 1960 and 1970. When Meakerville's population is included with that of the City, Cordova's population actually rose from 1,176 to 1,513 between 1960 and 1970, or a healthy 28.7 percent.

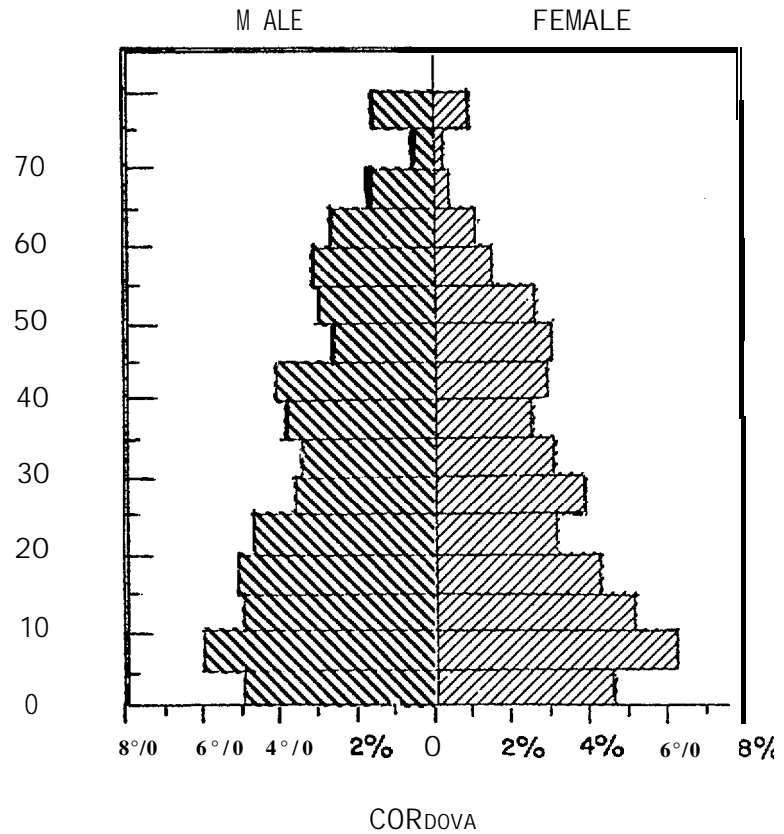
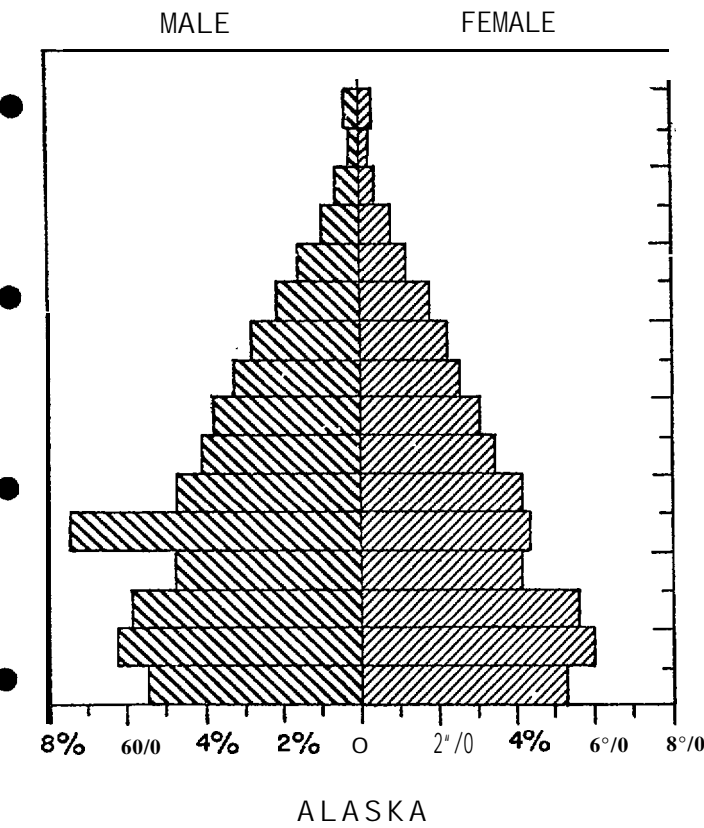
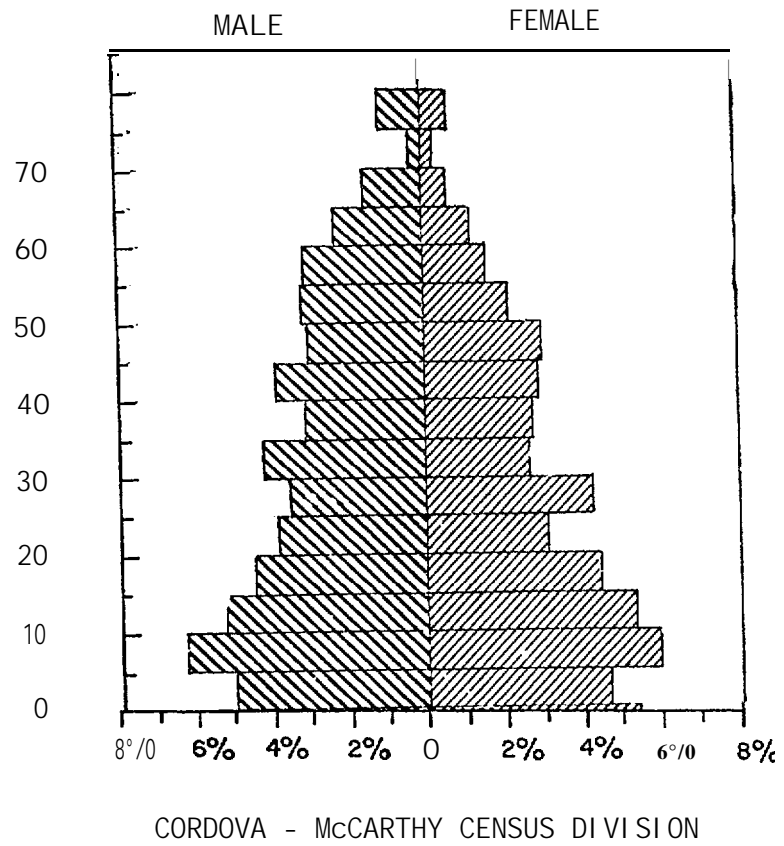
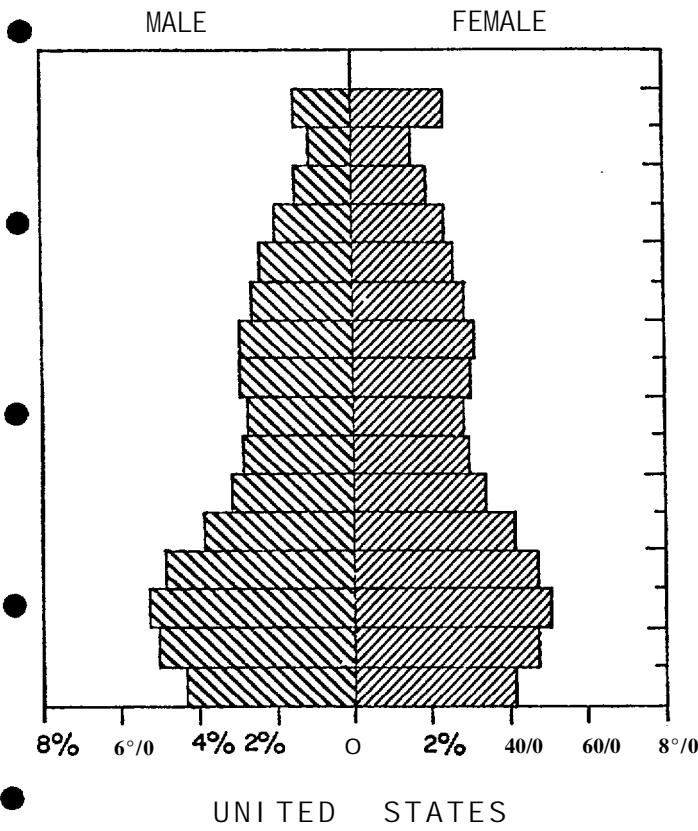
Since 1970, Cordova's population has seen further significant growth, much of it related to the successful entry into large scale tanner crab processing in the early 1970's which has made the community's fishing and fish processing industry more of a year-round operation. Much of this growth has occurred within Cordova's new corporate limits which were enlarged in 1972 to include Old Town, the Orca area north of town, development on both sides of Eyak Lake a short distance past the Chugach National Forest boundary and most residences out Whitshed Road. Based on an average of 3 persons per dwelling unit, Alaska Consultants estimates that approximately 1,755 people were permanent City residents in 1978 or, 16 percent more than lived in Cordova/Meakerville in 1970. This figure excludes close to 550 persons estimated to live in cannery bunkhouses, in other group quarters or on boats, most of them within

Cordova's present corporate limits. Alaska Consultants further estimated that the Cordova area currently has a total of 2,762 residents (including those living in group quarters and on boats), using a ratio of 2 persons for every job which was previously found to hold true here (Alaska Consultants, February 1976).

Alaska Consultants' population estimates for Cordova and the Cordova road-connected area differ from those recorded in a census undertaken by a consultant for the City in 1978. The local census counted 2,780 people living within the City and another 445 people outside town. However, the disparity between the two groups of population estimates is more apparent than real. The 1978 local census was undertaken during the summer when the community's population is at its peak, whereas Alaska Consultants' estimate represents more of an average population figure. In addition, Alaska Consultants' population estimate for the area outside town extends further afield, to the YACC camp at Mile 27 of the Copper River Highway.

Population Composition

The composition of the Cordova area's population reflects some typically Alaskan characteristics but in other respects it tends to be closer to national than State norms (see Figure 8). Like the State, Cordova's males outnumber females and the community has a high proportion of very young people. On the other hand, Cordova has a higher proportion of people in the older age ranges, particularly males.



COMPOSITION OF POPULATION

The Cordova-McCarthy census division's 55 percent male to 45 percent female ratio in 1970 was slightly higher than the State's 54 to 46 percent ratio for the same year. In the City of Cordova, however, males outnumbered females by a slightly smaller margin of 53 to 47 percent. Both Cordova and the State were totally dissimilar from the 1970 national norm of 51 females for every 49 males.

Like the State, Cordova's population includes a high proportion of very young people. In 1970, 10 percent of the Cordova-McCarthy census division's population was under 5 years old, compared with 11 percent Statewide and 8.4 percent for the country as a whole.

Unlike the State, Cordova had relatively few males 20 to 24 years of age in 1970, although it had a slightly higher proportion in this group than did the nation as a whole. However, the State averages for this age range reflect the heavy military presence elsewhere in Alaska, not any peculiarity in the population of the Cordova-McCarthy census division. More significant, is the high proportion of Cordova area residents in the older age groups. In 1970, 31 percent of the Cordova-McCarthy census division's people were over 40 years of age compared with 22 percent in this group Statewide. Nevertheless, this was not nearly as high as the national average of 36 percent of the population in this range. The presence of older males is particularly striking. In 1970, 19 percent of the Cordova-McCarthy census division's people were males over 40 years old, substantially higher than the Statewide average (12 percent) and even higher than the national norm (17 percent).

TABLE 28
COMPOSITION OF POPULATION BY RACE AND SEX
CORDOVA-MCCARTHY CENSUS DIVISION
1970

<u>Race</u>	<u>Sex</u>		<u>Total</u>	<u>Percent of Total</u>
	<u>Male</u>	<u>Female</u>		
White	858	671	1,529	82.3
Negro	2	---	2	0.1
Indian	21	28	49	2.6
Japanese	2	1	3	0.2
Filipino	15	20	35	1.9
Other <u>a/</u>	128	111	239	12.9
<u>TOTAL</u>	<u>1,026</u>	831	<u>1,857</u>	<u>100.0</u>

a/ The 1970 Census counted Aleuts and Eskimos as "Others". It is assumed that essentially all persons counted in the "Other" category in the Cordova-McCarthy census division in 1970 were Alaska Natives.

Source: U.S. Department of Commerce, Bureau of the Census. September 1971. General Population Characteristics, Alaska. U.S. Government Printing Office, Washington, D.C. Final Report PC(1)-B3.

As one would expect given the large number of older people living in the area, **Cordova's** population has a relatively high median age. The census division's median age of 26 in 1970 was well above that of the State (22.9) although not as high as the nation (28.3). The median age of **Cordova** area males (28.4) was **close** to the national median for males (28.6) but substantially higher than that for the State (23.3). However, the median age of Cordova area females in 1970 (23.6), more closely resembled that of the State (22.2) than the nation (29.6).

Cordova is a predominantly white community, although Alaska Natives represent a significant minority. In 1970, 82.3 percent of the **Cordova-McCarthy** census division's population was white (see Table 28). The second most numerous group was classed as "Other", essentially all of whom can be assumed to be Eskimo or **Aleut**. When the Other and Indian groups are combined, 15.5 percent of this area's 1970 population can be said to be Alaska Native. Filipinos constituted a minor (1.9 percent) but significant element in the Cordova-McCarthy census **div**ision in 1970 but no other groups accounted for more than 0.2 percent of the area's total population.

Growth Prospects

Prospects for the future continued growth of Cordova appear good. It is anticipated that this growth will be derived from three primary sources. These are fishing and fish processing, the planned expansion of Coast

Guard operations in this area, and tourism. Increased activity in these areas should generate growth in secondary employment and, in turn, result in increased population.

Cordova's fishing and fish processing industry has changed significantly during the past few years. The community's two largest processors are both located in the Cordova industrial park which was added following the 1964 earthquake. These are modern plants with large salmon freezing and canning capacities and which also produce frozen and canned tanner crab and a number of additional frozen products, most notably **Dungeness** crab, salmon eggs and herring but also lesser amounts of other species. By contrast, Cordova's older processing plants are almost exclusively salmon processors although one freezes tanner and Dungeness crab and herring. Increased diversification by even one of these plants could make a positive **contribution** to population growth in the Cordova area, particularly if it required fishermen and processors to operate over a longer season.

Bottomfishing also offers some potential for increased employment and population growth in the Cordova area although initial tests run by the National Marine Fisheries Service in Prince William Sound were reportedly disappointing. However, growth in the short term from this source is unlikely. According to one Cordova processor, the establishment of a **bottomfish** processing operation here is unlikely until at least five years after such an operation has been successfully established in Kodiak or the Aleutians. Clams, once a major fisheries product in the

Cordova area, also offer some potential for growth but probably not in the immediate future.

Aside from fish processing, Cordova can also expect to derive growth in employment and population from the planned development of a helicopter air station at Mile 13 'by the U.S. Coast Guard. As currently envisaged, this would involve the stationing of about 50 personnel, or a total of 150 people, in the community. The addition of a helicopter air station at Cordova is listed as the number one priority of the 17th Coast Guard district for 1981 although actual construction of the facility may be delayed beyond that date.

Tourism is also likely to be a continued source of economic strength and population growth in the Cordova area. Factors which will influence growth in this industry here include completion of the Copper River Highway, the extent to which Anchorage metropolitan area residents use the area for recreational boating and winter sports activities, and a continuation of the more traditional sport hunting and fishing activities in the general Cordova area. The proposed establishment of a Wrangell-St. Elias National Park could also influence tourism through Cordova which would function as a gateway to that area.

ECONOMY

Cordova's economy is very heavily dominated by the fishing and fish processing industry. However, other sources of economic strength exist

in the tourism industry and in certain government activities, most notably those of the U.S. Forest Service and U.S. Coast Guard. These activities are called "basic" or exogenous as they are export industries whose fortunes are determined by forces outside the local area and are the foundation upon which "secondary" or **endogenous** industries, those whose fortunes are determined by local forces, rest. Thus, gains in 'basic industry are essential for long term community growth.

Composition of Employment

A review of employment in Cordova was undertaken in August 1978 by Alaska Consultants, Inc. This was felt to be necessary as, even though most employment recorded for the **Cordova-McCarthy** division by the Alaska Department of Labor is based in Cordova, the composition of employment in the larger area is dissimilar in some instances. Furthermore, since Department of Labor statistics reflect only civilian employment, Coast Guard personnel stationed in Cordova are excluded. Thus, a separate count of total employment in the community was conducted.

Employment in Cordova's major basic economic activity, fishing and fish processing, tends to be highly seasonal. Because of this, a large number of people who work in these industries live in Cordova for only part of the year while others who live here year-round may engage in other occupations in the community during the off-season. To minimize duplication and to reduce the distortion in **total** employment caused by transient workers, Alaska Consultants, Inc. attempted to estimate the

annual average full-time employment in all sectors of the community's economy. Except for fishermen, this was done by asking each employer to indicate if, when and how many seasonal personnel were added to normal employee levels.

To determine the annual average employment in fishing, gear registration information was obtained from the Alaska Department of Fish and Game. Each vessel type was then multiplied by the number of fishermen normally associated with that particular type of gear. The average annual number of fishermen was subsequently derived by determining the number of months worked by each gear type and pro-rating fishing employment accordingly. For example, 100 fishermen working for 3 months would equal 25 fishermen on an annual average full-time basis. (This method reduces duplication caused by individual fishermen participating in more than one fishery or working in other jobs during the off-season and eliminates the distortions which would otherwise result from fishermen who live in the Pacific Northwest states or other Alaska areas for much of the year).

Overall, basic employment was estimated to account for about 70 percent of the average annual full-time employment in the immediate Cordova area in 1978. The basic to secondary employment ratio of close to 1.0:.5 is lower than national norms where ratios in the neighborhood of 1.0:1.5 are considered average. However, except for Anchorage, Alaska communities normally have a small secondary sector. This is particularly true of communities with economies heavily dependent upon fishing and fish processing.

When converted to an average annual full-time basis, Cordova was found to have a total of 1,381 jobs in 1978 (see Table 29). Close to 50 percent of these jobs were associated with fishing (agriculture, forestry and fishing) and fish processing (essentially all of the manufacturing sector except for employment associated with the production of the local newspaper). All fishing and fish processing employment is considered to be basic as only a very minor amount of fish is produced for local consumption.

Cordova also has a large government sector. A total of 143 federal government jobs was identified here in 1978. The largest **single employer** was the U.S. Forest Service with 69 full-time employees, most of them Young Adult Conservation Corps (YACC) personnel stationed in a camp at Mile 27 of the Copper River Highway. The Coast Guard had a complement of 53 employees based in Cordova, the Federal Aviation Administration had 14 and the Post Office had 7. All except Post Office personnel and a share of those associated with the Federal Aviation Administration are considered basic. All told, 90 percent of Cordova's federal government employment in 1978 was determined to be basic, making this element of the community's economy second only to fishing and fish processing.

All of Cordova's 122 local government employees and most of its State employees are considered to be secondary. State employment which is basic is either associated with tourism (a share of personnel employed on the M/V Bartlett which counts Cordova as its home port) or with fishing and fish processing (the largest share of which is a portion of the Alaska Department of Fish and Game's personnel).

TABLE 29
AVERAGE ANNUAL FULL-TIME EMPLOYMENT a/
CORDOVA AND IMMEDIATE VICINITY
1978

<u>Industry Classification</u>	<u>Number</u>	<u>%</u>	<u>% Basic</u>	<u>Basic Number</u>	<u>Secondary Number</u>
Agriculture, Forestry and Fishing	400	29.0	100	400	0
Mining	0	---	100	0	0
Contract Construction	22	1.6	41	9	13
Manufacturing	277	20.0	95	263	14
Transportation, Communication & Public Utilities	72	5.2	38	27	45
Trade	146	10.6	36	53	93
Finance, Insurance & Real Estate	33	2.3	15	5	28
Service	85	6.2	29	25	60
Government	346	25.1	46	158	188
Federal	(143)	(10.4)	(90)	(129)	(14)
State	(81)	(5.9)	(36)	(29)	(5.2)
Local	(122)	(8.8)	(0)	(0)	(122)
<u>TOTAL</u>	<u>1,381</u>	<u>100.0</u>	<u>68</u>	940	441

a/ Includes self-employed and military personnel.

Source: Alaska Consultants, Inc. August 1978.

After agriculture, forestry and fishing, government and manufacturing, trade was the largest sector in Cordova in 1978, accounting for slightly more than 10 percent of the community's average annual full-time employment. Approximately one-third of the employment in this sector was judged to be basic since it derives either from the transient fishing fleet or from tourism. Approximately one-quarter of employment in both the service and the transportation, communication and public utilities sectors is also basic. Most basic employment in the service sector is associated with hotel accommodations utilized by tourists and transient fishermen, while that in the transportation, communication and public utilities sector is associated with airline and air taxi operations and is thus tourist-related.

Of the remaining employment sectors, only two are locally significant. Contract construction was estimated to employ an annual average of only 22 people in 1978 although this sector had a high proportion of basic employees because of ongoing work on the Copper River Highway. A share of employment in the finance, insurance and real estate sector was also judged to be basic, namely that associated with Native corporations established under the terms of the Alaska Native Claims Settlement Act.

Unemployment and Seasonality of Employment

Like most Alaska communities with economies heavily based in fishing and fish processing, employment in the Cordova area shows a high degree of seasonal variation. In 1976, the most recent year for which complete

figures are available, total nonagricultural wage and salary employment in the Cordova-McCarthy division ranged between about 66 percent and 144 percent of the annual average. This degree of seasonality was not exceeded in any other census division in Southcentral Alaska in 1976 (see Figure 2 on page 40). Even the Kodiak division showed less seasonal variation in employment. However, the fishing and fish processing industry in that community is more of a year-round operation than it is in Cordova.

Unemployment rates in Cordova in 1976 were slightly above State averages and exceeded other census divisions in Southcentral Alaska except for Kenai-Cook Inlet, Seward and Matanuska-Susitna. However, 1976 was not a "normal" year as employment Statewide and in certain census divisions, including Anchorage and Valdez-Chitina-Whittier in Southcentral Alaska, was impacted by construction of the Trans Alaska Pipeline. The Cordova area was relatively unaffected by this activity.

Using Alaska Department of Labor unadjusted figures, an average of 10.8 percent of Cordova's civilian labor force was unemployed in 1976 compared with a Statewide average of 10.5 percent. Anchorage and Valdez-Chitina-Whittier, both of which were impacted by Pipeline construction, had annual average unemployment rates of only 8.4 and 6.2 percent respectively. However, unemployment rates in Cordova did not approach the extremes suffered by the Seward (18.9 percent) or the Matanuska-Susitna (31.9 percent) census divisions.

Like its employment, unemployment in Cordova shows strong seasonal variations. Local unemployment rates in this census division in 1976 were lowest in July (5.6 percent) when the civilian labor force was close to its peak level and highest in December (19.6 percent) when the labor force was at its lowest. Thus, unemployment in the Cordova area is primarily a seasonal problem, with a significant share of the labor force living here only during the peak summer months.

Recent Trends and Changes

Total nonagricultural wage and salary employment in the Cordova-McCarthy division rose 42 percent between 1970 and 1976 (see Table 30), a healthy rate of growth but only about half that recorded for the State as a whole. However, as previously indicated, Statewide figures were severely impacted by Pipeline construction whereas Cordova felt little impact from this activity. The relative impact of Pipeline construction Statewide can be gauged from the fact that between 1970 and 1973, nonagricultural wage and salary employment in the Cordova-McCarthy division rose at a rate more than double that of the State.

Although 1970 employment figures in manufacturing are affected by disclosure regulations, a significant amount of growth (125.8 percent) took place in this sector in the Cordova-McCarthy division between 1971 and 1976. This growth is primarily due to the development of the tanner crab fishery and, consequently, a longer period of operation by local fish processing plants as peak employment levels in this sector have

TABLE 30

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT DISTRIBUTION
CORDOVA-MCCARTHY LABOR AREA
1970-1976

	1970		1971			1972		
	Number	%	Number	%	% change	Number	%	% Change
Mining	<u>*/</u>		<u>*/</u>			<u>*/</u>		
Contract Construction	<u>*/</u>		<u>*/</u>			<u>*/</u>		
Manufacturing	<u>*/</u>		128	18.6		185	25.1	44.5
Transportation, Communications and Public Facilities	36	4.9	33	4.8	- 8.3	49	6.6	48.5
Trade	70	9.6	69	10.0	-1.4	75	10.2	8.7
Finance, Insurance and Real Estate	<u>*/</u>		<u>*/</u>			<u>*/</u>		
Service	72	9.8	51	7.4	-29.2	54	7.3	5.9
Miscellaneous	31	4.2	30	4.4	- 3.2	20	2.7	-33.3
Government	191	26.0	221	32.2	15.7	232	31.4	5.0
Federal	(39)	(5.3)	(40)	(5.8)	(2.6)	(37)	(5.0)	(- 7.5)
State and Local	(152)	(20.7)	(181)	(26.3)	(19.1)	(195)	(26.4)	(7.7)
TOTAL	233	100.0	687	100.0	-6.3	238	100.0	2.4

*/ Employment figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor, Employment Security Division. 1970-1976.
Alaska Labor Force Estimates by Area and Employment by Industry.
Juneau.

1973			1974			1975			1976			1970 - 1976
Number	%	% Change	Number	%	% Change	Number	%	% Change	Number	%	% Change	% Change
56	29.3	38.4	213	23.8	-16.8	213	22.0	0.0	289	27.8	35.7	
31	9.3	65.3	98	10.9	21.0	84	8.7	-14.3	70	6.7	-16.7	94.4
95	10.9	26.7	111	12.4	16.8	112	11.6	0.9	112	10.8	0.0	60.0
62	7.1	14.8	65	7.3	4.8	84	8.7	29.2	91	8.7	8.3	26.4
43	4.9	115.0	33	3.7	-23.3	55	5.7	66.7				
39	27.3	3.0	273	30.4	14.2	282	29.1	3.3	283	27.2	0.4	48.2
34	(3.9)	(-8.1)	(36)	(4.0)	(-5.9)	(41)	(4.2)	(13.9)	(37)	(3.6)	(-9.8)	(-5.1)
05	(23.4)	(-5.1)	(237)	(26.4)	(15.6)	(241)	(24.9)	(-1.7)	(246)	(23.6)	(-2.1)	(-61.8)
	<u>100.0</u>	<u>18.6</u>	<u>897</u>	<u>100.0</u>	<u>2.5</u>	<u>969</u>	<u>100.0</u>	<u>8.0</u>	<u>1041</u>	<u>100.0</u>	<u>7.4</u>	<u>42.0</u>

remained relatively constant. Fishermen, ~~are not~~ included in nonagricultural wage and salary statistics (except for some in the Miscellaneous category). However, it ~~is not~~ unreasonable to assume that a commensurate increase in the number of fishermen based out of Cordova also took place during the 1970-76 period. In fact, because of the effect of Limited Entry regulations, the number of fishermen probably increased at a greater rate than manufacturing employment.

Government employment rose 48.1 percent in the **Cordova-McCarthy** division between 1970 and 1976, with most of this increase taking place in the State and **local** government area. It should be noted, however, that State employment statistics exclude Coast Guard personnel stationed in Cordova. Furthermore, federal employment in the **Cordova** area has since undergone a major increase with the establishment in May 1978 of a Forest Service-sponsored Young Adult Conservation Corps (**YACC**) camp at Mile 27 of the Copper River Highway.

Transportation, communication and public utilities employment registered a 60 percent increase between 1970 and 1976. Most of the 34 jobs added in this sector are believed to have been related to airline and air taxi operations, with a portion of this growth being tourist-related. Following the transfer of Cordova's electric and telephone utilities to a Rural Electrification Administration (**REA**) cooperative as of September 30, 1978, some additional growth will take place in this sector while employment in local government will show a commensurate decrease.

Employment in the trade sector in the Cordova-McCarthy division rose a healthy 60 percent between 1970 and 1976. Some of this growth doubtless resulted from the replacement of businesses destroyed in the 1969 downtown fire. However, increases in this and the service sector would also have been stimulated by the significant growth recorded during this period in Cordova's major industry, fishing and fish processing.

Few trends can be discerned in the mining, contract construction and the finance, insurance and real estate sectors as employment in all of these sectors is affected by disclosure regulations. However, there is very little mining activity in the immediate Cordova area. Contract construction tends to vary widely from year to year. The major continuing construction project in the area has been work on the Copper River Highway but shorter term projects cause fluctuations in annual statistics. Finally, employment in the finance, insurance and real estate sector has shown some growth in Cordova between 1970 and 1976 as a result of the Alaska Native Claims Settlement Act. The Eyak, Chenega and Tatitlek village corporations are all active in Cordova and have generated some modest increases in employment.

Occupational Skills

No comprehensive occupational skills information is available for the Cordova area. Furthermore, since the Employment Security Division of the Alaska Department of Labor does not have a manpower center in Cordova, not even information concerning the skills of people seeking employment in this area is available.

Despite the absence of statistical data, it is obvious that a very high proportion of people in this area have skills in fishing and fish processing occupations. This was borne out by an April 1975 survey of 100 households in the Cordova area by Alaska Consultants, Inc. Excluding 28 people who were outside the labor force, mainly housewives or retired persons, the largest occupational group interviewed (24 persons) was fishermen (see Table 31). Only 3 people interviewed counted processing as their primary occupation. However, it is probable that others had skills in this area. A September 1977 questionnaire mailed to all Cordova post office box holders by Jim Payne et al (September 1978) indicated that 29 percent of the respondents were engaged in fishing occupations and another 6 percent in processing.

The April 1975 survey also indicated that a substantial proportion of Cordova's adult population possesses professional, technical and managerial skills. This is not surprising given Cordova's fairly large trade and government sectors. No comparative data on this subject is available from the September 1978 survey since standard occupational titles were not used in coding responses.

It should be noted that the data presented in Table 31 refers only to primary occupational skills. Because of this, the proportion of people with skills in fishing and fish processing in Cordova is doubtless understated. A very large proportion of Cordova's population has engaged in commercial fishing although it may not necessarily be considered a primary occupation. The same is also true of fish processing.

TABLE 31

PRIMARY OCCUPATIONAL SKILLS a/ b/
 CORDOVA AND IMMEDIATE VICINITY
 1975

<u>Occupation Category</u>	<u>Number</u>
Professional /technical /managerial	21
Clerical and sales	5
Services	6
Farming, fishery, forestry	24
Processing	3
Machine trades	1
Bench work	0
Structural work	5
Miscellaneous	7
Not specified	28
<u>TOTAL</u>	100

a/ Based on 100 interviews conducted in the greater Cordova area by Alaska Consultants, Inc. in April 1975.

b/ The data presented in this table refers to primary occupational skills only. Many people in Cordova possess skills in occupations in which they are not primarily engaged, particularly fishing and fish processing.

Source: Alaska Consultants, Inc. February 1976. Cordova Comprehensive Development Plan. Anchorage.

Income Levels

AS part of an April 1975 survey conducted by Alaska Consultants, Inc. during preparation of the Cordova Comprehensive Development Plan (February 1976), an attempt was made to measure household income levels in the immediate Cordova area. Excluding payments made to individuals under the terms of the Alaska Native Claims Settlement Act, the mean household income here in 1974 was found to be \$22,500 (see Table 32). This was well above the 1969 median family income of \$12,053 recorded for the Cordova-McCarthy census division by the 1970 census, even allowing for increases in living costs.

According to Alaska Department of Labor statistics published in the Statistical Quarterly, average monthly wages in the Cordova-McCarthy division in 1976 (\$1,220) were well below those for the State as a whole (\$1,928). However, these statistics tend to be misleading as Statewide figures in 1976 were distorted by the very high wages realized by many persons working on the Pipeline at that time. Furthermore, most fishermen in the Cordova area are excluded from these wage statistics. This group had the highest household incomes in Cordova in 1974.

A look at average monthly wages by industry sector for nonagricultural industries in the Cordova-McCarthy division from 1975 through the third quarter of 1977 indicates that apart from mining which is not a factor in the immediate Cordova area, the highest average monthly wages were realized in the government sector (see Table 33). The average monthly

TABLE 32

HOUSEHOLD INCOME DISTRIBUTION
CORDOVA AND IMMEDIATE VICINITY a/
1974

<u>Household Income</u>	<u>Percent of Total</u>
Under \$3,000	3.6
\$3,000-\$4,999	4.8
\$5,000-\$7,499	4.8
\$7,500-\$9,999	7.1
\$10,000-\$14,999	9.5
\$15,000-\$19,999	13.1
\$20,000-\$24,999	22.6
\$25,000-\$29,999	8.3
\$30,000 or more	26.2
<u>TOTAL</u>	<u>100.0</u>
Mean Household Income	\$22,500

a/ Based on the responses of 84 households in the City of Cordova and its road-connected area. Another 16 households surveyed either did not or could not respond to this question.

Source: Alaska Consultants, Inc. 1976. City of Cordova, Comprehensive Development Plan. Anchorage.

AVERAGE MONTHLY WAGE BY INDUSTRY SECTOR
CORDOVA-McCARTHY DIVISION
1975 - 1977

	1975				1976				1977		
	1st Qr	2nd Qr	3rd Qr	4th Qr	1st Qr	2nd Qr	3rd Qr	4th Qr	1st Qr	2nd Qr	3rd Qr
TOTAL NONAGRICULTURAL INDUSTRIES	\$1,081	\$1,164	\$1,266	\$1,244	\$ 992	\$1,169	\$1,307	\$1,446	\$1,326	\$1,369	\$1,588
Mining	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	\$3,328	\$3,453
Construction	\$1,411	<u>*/</u>	\$2,441	\$1,750	<u>*/</u>	<u>*/</u>	<u>*/</u>	\$3,855	<u>*/</u>	<u>*/</u>	\$1,077
Manufacturing	\$ 585	\$ 684	\$ 958	\$ 688	\$ 552	\$ 771	\$1,057	\$1,391	\$ 696	\$ 963	\$1,480
Transportation, Communications & Public Utilities	\$1,106	\$1,461	\$1,277	\$1,756	\$1,329	\$1,456	\$1,415	\$2,072	\$1,466	\$1,257	\$1,342
Wholesale Trade	<u>*/</u>	---	---	---	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>
Retail Trade	\$ 666	\$ 696	\$ 677	\$ 781	\$ 701	\$ 799	\$ 784	\$1,235	\$ 871	\$ 793	\$ 909
Finance, Insurance & Real Estate	\$ 774	\$ 857	<u>*/</u>	\$ 943	\$1,001	\$ 856	\$ 997	\$1,082	\$1,067	\$1,050	\$1,138
Services	\$ 632	\$ 645	\$ 840	\$ 674	\$ 636	\$ 645	\$ 673	\$ 733	\$ 797	\$ 975	\$ 912
Federal Government	\$1,634	\$1,384	\$1,329	\$1,874	\$1,571	\$1,829	\$1,552	\$1,933	\$1,650	\$1,963	\$1,636
State and Local Government	\$1,175	\$1,235	\$1,365	\$1,316	\$1,154	\$1,385	\$1,444	\$1,363	\$1,436	\$1,570	\$1,696
Miscellaneous & Nonclassifiable	\$ 731	\$ 858	\$1,730	<u>*/</u>	\$ 962	\$1,039	\$1,652	<u>*/</u>	\$1,211	\$1,323	<u>*/</u>

*/ Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor, Employment Security Division. 1975-1977. Statistical Quarterly. Juneau.

wage for federal employees in the Cordova-McCarthy division during the third quarter of 1977 was \$1,636, slightly above Statewide averages, whereas that for State and local government employees (\$1,969) was slightly below the average Statewide. The average monthly wage in all other sectors in the Cordova-McCarthy division was well below State levels during the third quarter of 1977, particularly in the services and transportation, communications and public utilities sectors. Again, however, it should be stressed that, aside from some people included in the miscellaneous category, total nonagricultural industry data excludes most fishermen in the Cordova area.

Despite Cordova's generally strong economy, welfare in the form of general assistance payments made by the U.S. Bureau of Indian Affairs to Alaska Natives and public assistance funds distributed by the Alaska Department of Health and Social Services are significant sources of income for some Cordova households. The Bureau of Indian Affairs distributed a total of \$9,161 to 9 individual "cases" in the Cordova area during its 1977 fiscal year (see Table 34). Except for FY 1976, these payments have been declining during the past few years although the average monthly payment made to various "cases" has remained about the same.

Statistics provided by the Alaska Department of Health and Social Services' Division of Public Assistance indicate that \$3,934 was distributed to 23 individual "cases" in Cordova during a typical month in 1977, for an average monthly payment of \$171 (see Table 35). Ten of

TABLE 34

GENERAL ASSISTANCE PAYMENTS a/
CORDOVA, ALASKA
FY 1972 - FY 1977

	<u>FY 1972</u>	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
Total Payment	\$25,000	\$31,812	\$13,954	\$11,912	\$ 1,514	\$ 9,161
Number of Cases	24	30	20	13	3	9
Average Payment:						
Annual	\$ 1,042	\$ 1,060	\$ 698	\$ 916	\$ 505	\$ 1,018
Monthly	\$ 87	\$ 88	\$ 58	\$ 76	\$ 42	\$ 85

a/ Payments made to individual cases by the Bureau of Indian Affairs.

Source: U.S. Department of the Interior, Bureau of Indian Affairs.
Juneau.

TABLE 35

PUBLIC ASSISTANCE PROGRAM PAYMENTS
CORDOVA, ALASKA
OCTOBER 1977 a/

	<u>Old Age Assistance</u>	<u>Aid to the Blind</u>	<u>Aid to the Disabled</u>	<u>Aid to Families with Dependent Children</u>	<u>Total</u>
Total Payment	\$ 878	\$ 0	\$1,038	\$2,018	\$3,934
Number of Cases	10	0	6	7	23
Average Payment	\$ 88	\$ 0	\$ 173	\$ 288	\$ 171

a/ October is considered to be a representative month for public assistance payments.

Source: Alaska Department of Health and Social Services, Division of Public Assistance.

the 23 cases were for Old Age Assistance although the average monthly payment under this program amounted to only \$88 per individual "case".

SECTOR ANALYSIS

Fishing and Fish Processing

Fishing and fish processing has been important in the Cordova area since the turn of the century and today is the major economic activity in this community. **Cordova** is the center of fishing and fish processing operations for a 98,420 square kilometer (38,000 square mile) region encompassing the Prince William Sound and the Copper River and Bering River fishery areas. In 1978, approximately 400 persons in the Cordova area were estimated by Alaska Consultants, Inc. to be engaged in fishing on an annual average full-time basis, plus an additional 260 persons in fish processing.

The fisheries industry of the Cordova area has become more of a year-round operation in recent years, particularly since the large scale entry into tanner crab, and this has had the effect of increasing both fishing and fish processing employment in the community. All five salmon species are taken and processed locally, as are salmon eggs, king crab, **Dungeness** crab, tanner crab, herring, herring roe, herring roe on kelp, halibut and razor clams. A minor amount of shrimp is also taken but none is processed locally. Salmon remains the area's most important fishery but the large scale entry into tanner crab has served to lessen

employment seasonality in Cordova's fishing and fish processing industry, while the recently developed herring roe fishery results in a flurry of activity in April of each year.

Six major seafood processors and several smaller firms were active in Cordova in 1978. However, of the major processors, only the St. Elias Ocean Products, North Pacific Processors and Morpac plants actually operated. These three firms produce a variety of fish products. In 1978, St. Elias ran four canned salmon lines (113.4 gram [1/4 lb.], 226.8 gram [1/2 lb.], 453.6 gram [1 lb.] tall and 1.8 kilogram [4 lb.]) and also put up 226.8 gram (1/2 lb.) cans of tanner crab. The same plant froze salmon, halibut, king crab, Dungeness crab and tanner crab, plus herring for bait and human consumption, clams for bait and salmon eggs. North Pacific ran three canned salmon lines (113.4 gram [1/4 lb.], 226.8 gram [1/2 lb.] and 453.6 gram [1 lb.] tall) and also put up tanner crab in 184.3 gram (6.5 oz.) cans. Other products of this plant in 1978 included frozen salmon, halibut, king crab, Dungeness crab, tanner crab and herring, the last for bait, human consumption and sac roe. In addition, North Pacific put up salmon eggs and minor amounts of clams and bottomfish. Clams and bottomfish are primarily frozen for bait although a few clams were canned. Finally, Morpac ran two canned salmon lines (226.8 gram [1/2 lb.] and 453.6 gram [1 lb.] tall) in 1978. Other products put up at this plant included frozen Dungeness and tanner crab, frozen herring, herring eggs on kelp, clams for bait and salmon eggs.

The New England Fish Company plant at Orca operated during the 1977 salmon season but, according to company officials, because a relatively poor run was forecast for 1978 and since this plant needs to pack around 90,000 cases of salmon annually in order to break even, its 1978 pack was instead processed by St. Elias Ocean Products and a lesser amount by Seward Fisheries. The Alaska Packers plant has not been used since the 1964 earthquake and this firm thus depends on other processors to custom pack its salmon. In 1978, this was done by Morpac. Finally, Whitney-Fidalgo Seafoods has no processing facilities in Cordova and its salmon was custom packed by St. Elias Ocean Products in 1978.

Cordova also has a number of small processors. These include the Bayside Cold Storage which freezes salmon, herring and minor amounts of halibut, Blake's Fancy Smoked Salmon and Glacier Packing Company which put up specialty canned salmon packs, and a number of herring sac roe and herring eggs on kelp specialists.

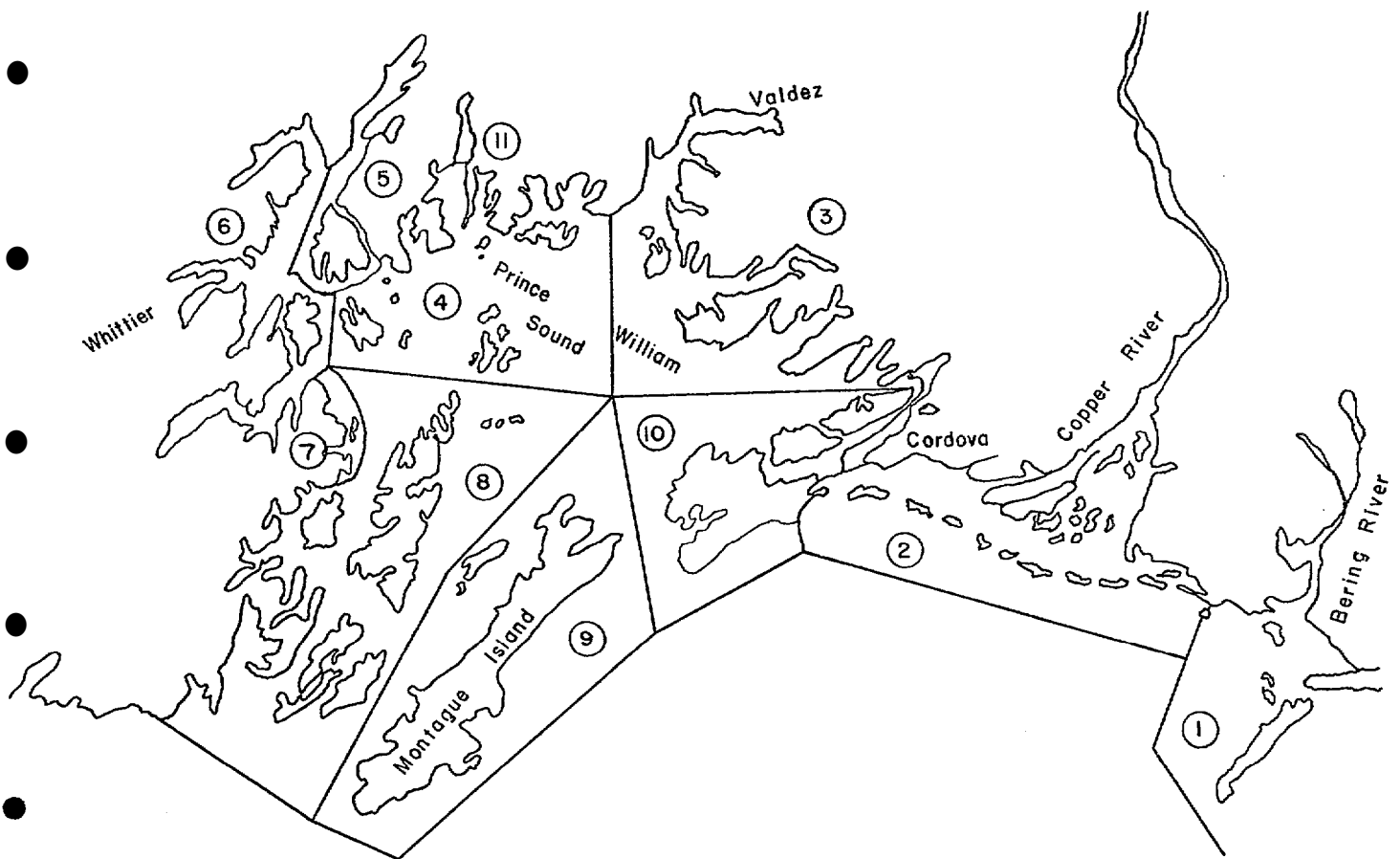
Activity in Cordova's fishing and fish processing industry shows a marked degree of seasonal variation, peaking in the summer months during the height of the salmon season. In winter, most attention is focused on the tanner crab fishery which normally gets underway in mid-November and extends through May. King crab processing is concentrated in October and November, while a brief flurry of activity accompanies the herring sac roe and herring eggs on kelp fisheries in April and early May. However, the major influx of fishermen and processing workers into the community coincides with the salmon season. This normally extends from

mid-May through mid-September, with the length of the fishing periods varying according to area, species and gear. Dungeness crab and halibut are also essentially summer fisheries. Most local processing of Dungeness crab takes place between April and October while 1978 halibut processing was largely undertaken between May and July. There is no closed season for razor clams but most are taken between late April and September. *

The salmon fisheries of the Cordova area are highly complex and are regulated accordingly. The Cordova commercial fisheries management area is divided into eleven fishing districts (see Figure 9) which form the basis for different gear and other regulations. Three types of gear are used to harvest salmon in this fisheries management area. The Bering and Copper River districts are drift gill net salmon areas and this gear is also used in the Coghill, Eshamy and Unakwik districts of Prince William Sound. Purse seines are used in all Prince William Sound districts except for Eshamy, while a small number of set gill nets are used in the Eshamy district.

The beginning of the salmon season in the Cordova area is signaled by the Copper River drift gill net fishery for red salmon which normally opens around the middle of May. The small Bering River red salmon fishery usually runs for a few weeks, starting in mid-June. In Prince William Sound itself, activity does not usually get underway until late June, beginning in the Coghill - Unakwik districts for red salmon by both drift gill nets and purse seines. Purse seine fishing in these districts coincides with drift gill net fishing but is extended past the

FISHING DISTRICTS CORDOVA COMMERCIAL FISHERIES MANAGEMENT AREA



- | | |
|-----------------|------------------|
| 1. Bering River | 6. Northwestern |
| 2. Copper River | 7. Eshamy |
| 3. Eastern | 8. Southwestern |
| 4. Northern | 9. Montague |
| 5. Coghill | 10. Southeastern |
| | 11. Unokwik |

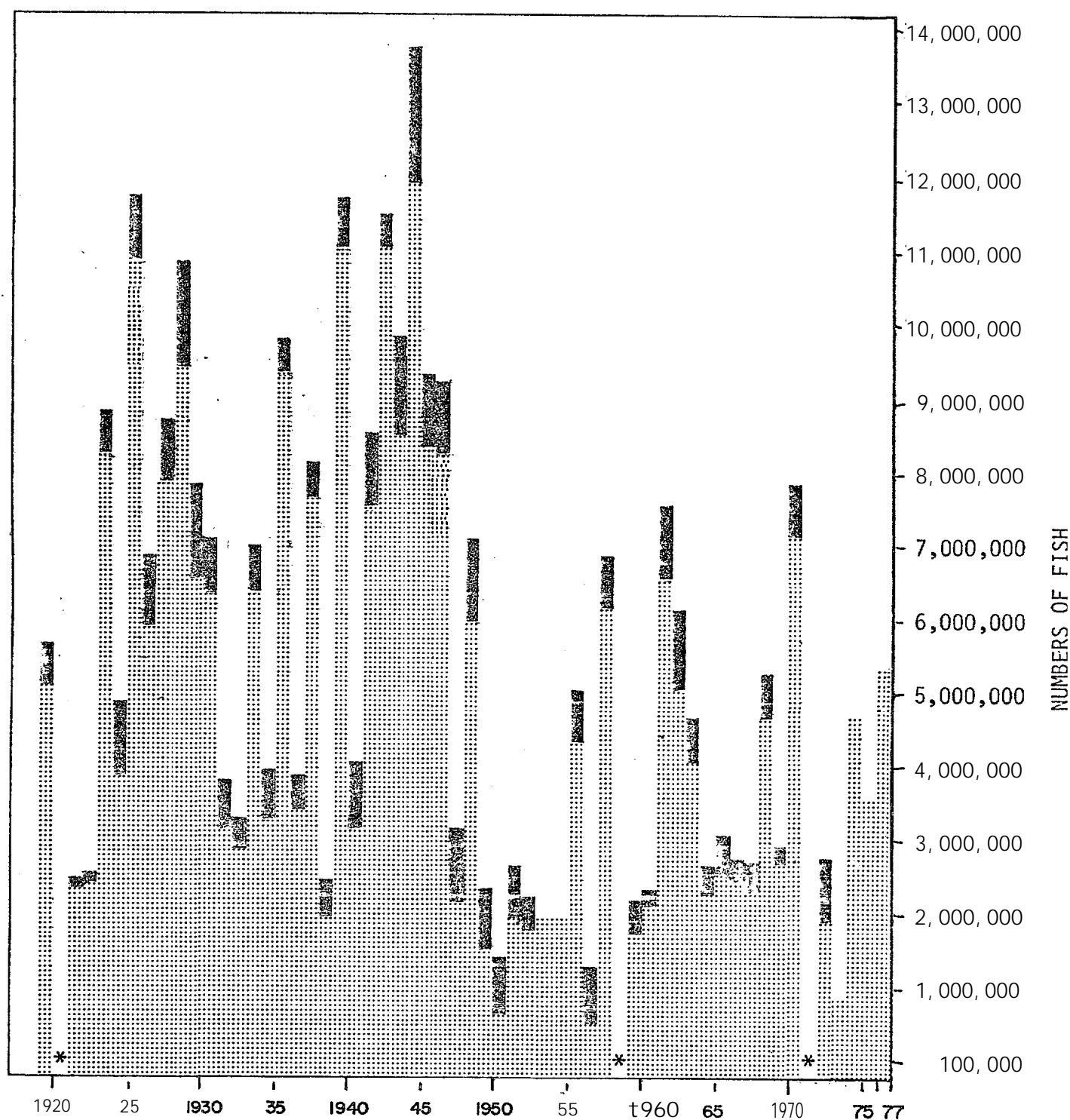
Source: Alaska Consultants, Inc. , February 1976

mid-July gill net closing date in order to harvest later runs of pink and chum salmon. This was not the case in 1972 and 1974, however, when all districts in the Sound except Coghill and Unakwik were closed to purse seines.

Pinks are the major salmon species caught in Prince William Sound itself, with the catch averaging close to 5,896,800 kilograms (13 million pounds) annually between 1960 and 1977 (see Figure 10 and Table 36). This area also has a major chum salmon fishery which averaged a catch of almost 1,542,240 kilograms (3.4 million pounds) per year during the same period, plus a significant red salmon fishery averaging about 349,726 kilograms (771,000 pounds) per year. The Copper River area is primarily a red salmon fishery, with cohos and kings also important, the latter being taken as an incidental catch with red salmon. Finally, the Bering River area is predominantly a coho fishery although reds are also significant. The Copper River/Bering River areas combined averaged an annual catch of almost 1,950,480 kilograms (4.3 million pounds) of red salmon between 1960 and 1977, plus 816,480 kilograms (1.8 million pounds) of cohos and 198,677 kilograms (438,000 pounds) of king salmon during the same period (see Figure 11).

Salmon catches in the Cordova area have trended downward, as they have elsewhere in the State. A recent phenomenon which played a part in the decline of this area's salmon fisheries was the 1964 earthquake. Not only did it do extensive damage to eggs and fry still in the gravel but it caused major changes in the salmon spawning environment. According

FIGURE 10



PRINCE WILLIAM SOUND COMMERCIAL SALMON CATCH 1920 - 1977

LEGEND: PINK SALMON CATCH
 TOTAL SALMON CATCH
 CATCH RECORDS INCOMPLETE

Sources: Alaska Consultants, Inc. (1976)
 Alaska Department of Fish and Game, Personal Communication

TABLE 36

COMMERCIAL SALMON CATCH BY SPECIES a/ b/
 PRINCE WILLIAM SOUND, COPPER RIVER AND BERING RIVER AREAS
 1960-1977
 (pounds) c/

Year	Prince William Sound d/ e/						Copper River/Bering River e/					
	King	Red	Coho	Pink	Chum	Total	King	Red	Coho	Pink	Chum	Total
1960	32,000	190,000	190,000	6,866,000	2,587,000	8,865,000	776,000	2,130,000	7,286,000	2,000	2,000	3,596,000
1961	8,000	410,000	90,000	10,280,000	1,745,000	12,533,000	174,000	3,520,000	1,513,000	7,000	1,000	5,215,000
1962	91,000	327,000	252,000	20,227,000	6,511,000	27,358,000	337,000	4,499,000	7,878,000	6,000	9,000	6,669,000
1963	58,000	374,000	453,000	23,829,000	8,769,000	33,483,000	280,000	2,469,000	2,708,000	7,000	1,000	5,465,000
1964	2,000	382,000	378,000	16,407,000	4,799,000	21,913,000	336,000	9,064,000	3,921,000	2,000	1,000	8,214,000
1965	26,000	638,000	425,000	8,120,000	1,508,000	10,717,000	363,000	4,559,000	1,759,000	3,000	2,000	6,085,000
1966	17,000	668,000	222,000	10,258,000	8,669,000	19,834,000	299,000	6,905,000	1,543,000	3,000	1,000	8,796,000
1967	24,000	301,000	363,000	11,687,000	2,265,000	14,640,000	280,000	3,332,000	2,165,000	3,000	2,000	5,817,000
1968	38,000	792,000	112,000	8,828,000	2,572,000	12,342,000	266,000	3,896,000	2,861,000	16,000	4,000	7,023,000
1969	76,000	782,000	91,000	19,218,000	2,728,000	23,941,000	321,000	4,704,000	580,000	3,000	2,000	\$ 610,000
1970	75,000	733,000	89,000	11,145,000	1,896,000	13,878,000	591,000	6,796,000	2,306,000	3,000	5,000	9,771,000
1971	37,000	632,000	225,000	26,194,000	4,128,000	31,216,000	447,000	9,276,000	2,773,000	7,000	28,000	7,531,000
1972	9,000	1,462,000	13,000	244,000	404,000	2,132,000	647,000	4,755,000	1,039,000	10,000	5,000	6,483,000
1973	28,000	1,032,000	12,000	8,292,000	6,981,000	16,315,000	619,000	2,389,000	1,851,000	38,000	68,000	5,025,000
1974	21,000	752,000	7,000	2,221,000	808,000	3,907,000	635,000	4,186,000	689,000	46,000	5,000	5,561,000
1975	28,000	1,457,000	49,000	16,261,000	729,000	18,524,000	551,000	2,366,000	703,000	1,000	5,000	3,626,000
1976	20,000	838,000	52,000	12,754,000	3,374,000	17,038,000	902,000	6,158,000	1,587,000	15,000	1,000	8,663,000
1977	19,000	855,000	61,000	20,510,000	5,195,000	26,635,000	623,000	6,228,000	1,866,000	25,000	2,000	8,794,000
Average	27,000	771,000	171,000	12,901,000	3,367,000	17,237,000	438,000	4,293,000	1,797,000	11,000	8,000	6,550,000

a/ Figures for 1960-1964 derived by multiplying numbers of fish caught by average weights for each species.

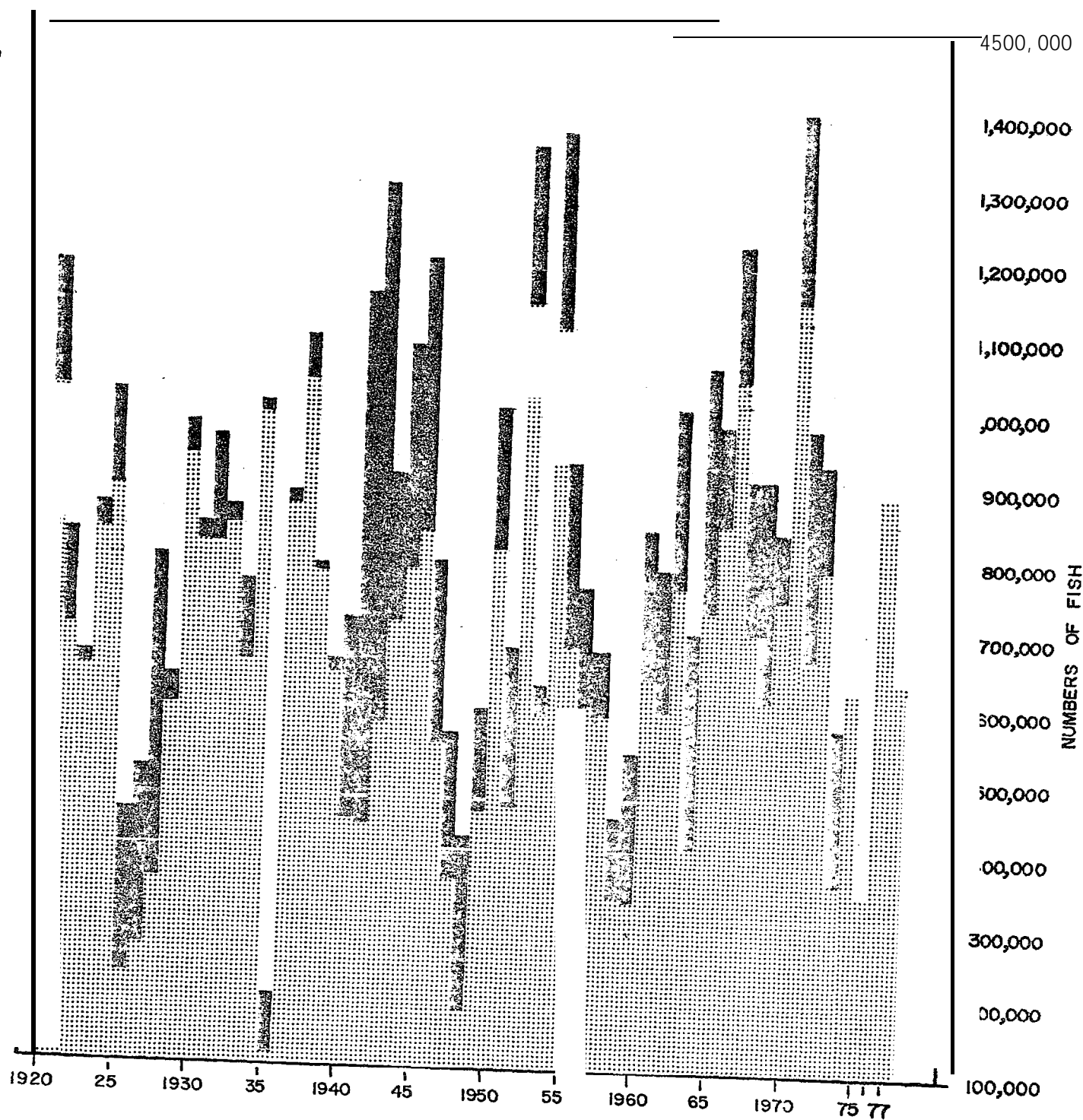
b/ All figures rounded to nearest thousand.

c/ Multiply by .4536 to obtain kilograms.

d/ 1960 figures for Prince William Sound include those of Middleton Island.

e/ Preliminary data for 1977 combined Prince William Sound catch with Copper River and Bering River catch. At the suggestion of Alaska Department of Fish and Game, these 1977 figures were obtained by taking the ratio of Prince William Sound catch to the total catch for 1976 in those areas and applying that ratio to the preliminary 1977 data.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries.



COW and BERING RIVER COMMERCIAL SALMON CATCH

1920 - 1977

LEGEND:  RED SALMON CATCH

 TOTAL SALMON CATCH

Sources: Alaska Consultants, Inc. (1976)
Alaska Department of Fish and Game, Personal Communication

to the Alaska Department of Fish and Game, of the 223 important salmon streams around the Sound, 138 were uplifted between 0.9 and 9.4 meters (3 and 31 feet), 43 subsided 0.6 to 1.8 meters (2 to 6 feet) and 42 remained at pre-quake levels. The results of substantial uplift can be clearly seen in the case of Montague Island which had annual average spawning escapements of about 700,000 before the earthquake compared with only 20,000 in 1969. This area has only very recently been opened once again for commercial fishing.

Local concern over declining salmon stocks in the Prince William Sound area led to the formation of the Prince William Sound Aquiculture Corporation in the winter of 1974-75. This is a regional non-profit corporation made up primarily of Cordova fishermen and processors plus the city governments of Valdez and Cordova, the Chugach Regional Corporation and the village corporations of Eyak, Tatitlek and Chenega. The corporation acquired a hatchery site at the old San Juan cannery on Sawmill Bay near the southwestern entrance to Prince William Sound and permanent facilities for 37.5 million "green" (unfertilized) and 20 million "eyed" (fertilized) eggs were completed before the 1976 adult run.

The first return of pink salmon to the hatchery occurred in 1977 with a return of about 50,000 fish. This was about a 5 percent return, much higher than the 2 percent survival rate expected. According to Prince William Sound Aquiculture officials, a return of around 225,000 fish is expected in 1978, using a more conservative survival rate of 2 percent.

As of August 20, approximately 150,000 pink salmon had returned. The Corporation plans to sell close to 190,000 fish and to keep the remainder for eggs. This "artificial" salmon run returns to the Sound later than do wild salmon stocks and Corporation officials were fairly confident that their projected return would be met.

The San Juan hatchery is now stocked with chum salmon fry as well as pinks. However, no chums are expected to return to the hatchery until 1980 and then only those which return as three year olds. Since most chums do not return to this area for four years, 1981 will be the first "big" year for hatchery chums.

Expansion of the capacity of the San Juan hatchery is already underway. According to State Fish and Game officials in Cordova, the capacity of the hatchery egg take is being increased to 40 million eggs this year. Prince William Sound Aquiculture Corporation officials indicated that this facility is ultimately planned to have a capacity of 62 million eggs of which 41 million would be pink salmon and 21 million would be chums. The 41 millions pink eggs would be expected to yield 34 million fry and an average return of 736,000 fish, while the 21 million chum eggs would be expected to yield 16 million fry and an average return of around 480,000 fish.

The San Juan hatchery is only one of four planned hatcheries in the Prince William Sound area. The Prince William Sound Aquiculture Corporation is planning another hatchery at Esther Lake while the State

has two planned facilities in the area, one at Cannery Creek on Unakwik Inlet and the second at Main Bay in the Eshamy district.

The State's hatchery program in the Prince William Sound area has been beset by a series of delays. The initial facility planned in this area was at Humpy Creek but the site proved unsuitable. Although development of the Cannery Creek facility has also been plagued by delays, bids were finally let in August 1978. Construction is scheduled for 1979 and the facility should be operational in 1980 with the first returns expected a couple of years later. Current plans call for the Cannery Creek hatchery to have a capacity of 40 million eggs, of which 15 million would initially be chums and 25 million would be pinks to produce a combined minimum of 30 million fry. In the longer run, however, the ratio of species is planned to be changed to predominantly chum salmon.

It is difficult to determine the degree of success which these rehabilitation efforts by the Prince William Sound Aquiculture Corporation and the State will have as there are still many unknowns associated with the artificial propagation of salmon. Initial returns to the San Juan hatchery have been very encouraging but problems such as disease or low marine survival rates could occur in the longer run.

A limited amount of halibut is delivered to Cordova fish processors. This is an international fishery with catch levels and the length of the fishing season regulated by the International Pacific Halibut Commission. The 1978 quota for Area 3 (which extends westward from Cape Spencer out

along the south side of the Aleutians) was set at 4,989,600 kilograms (11 million pounds). Fishing periods were set at May 8 to May 31, June 19 to July 6, July 25 to August 10 and August 26 to September 11, with the season to close as soon as the quota was reached. (The "actual" 1978 closure date for this area in 1978 was August 4).

Halibut catches have declined sharply in recent years and the quotas have been adjusted downward accordingly. For example, the quota for Area 3 was as high as 11,340,000 kilograms (25 million pounds) in 1973. Halibut prices have risen substantially (to \$0.52 per kilogram or \$1.15 per pound in the Prince William Sound area in 1977) and a number of small processors in Alaska have ventured into this fishery despite declines in the overall catch. However, halibut remains a relatively minor fishery in the Cordova area.

Herring is taken in the Cordova area for human consumption, for bait and for extraction of roe, plus herring spawn on kelp, with most activity in this fishery concentrated in April and early May although there is also a winter bait fishery.

The herring fishery in the Cordova area dates back to 1914 but, until 1958, this species was used almost entirely for reduction purposes. Between 1958 and 1969, virtually the only herring taken was for bait. However, in 1969 a new herring fishery was developed in which herring were taken for roe during a few days in April and were salted in containers and shipped to Japan. This herring sac roe fishery grew rapidly under

good market conditions and reached a peak harvest of 6,334,977.6 kilograms (6,983 tons) in 1973 (see Table 37). Concern over possible over-exploitation of stocks led to the establishment of a herring quota for the Prince William Sound area of 4,536,000 kilograms (5,000 tons) per year in 1974 although this quota was exceeded in both 1974 and 1975.

The herring spawn on kelp fishery also got underway in Prince William Sound in 1969, with the first experimental harvest taken from Johnson Bay and Landlocked Bay in the northeastern area of the Sound. Since 1969, this fishery has grown in importance with a peak harvest of 415,951.2 kilograms (458.2 tons) in 1975. However, concern over depletion of kelp beds has changed the method of harvesting from boats using grappling hooks to divers as kelp must now be harvested by a hand-held unpowered blade-cutting device. Like the herring sac roe fishery, herring eggs on kelp are primarily destined for the Japanese market.

The herring sac roe fishery became a limited entry fishery in 1977. This and the herring eggs on kelp fishery are highly specialized. Most herring eggs are not processed locally. Herring are instead frozen in the round and are shipped to Japan and Korea where the eggs are extracted and the fish used for human consumption. One major Cordova processor also reported shipping herring to Europe in 1978.

Shellfish are an important part of Cordova's fishing and fish processing industry with tanner, Dungeness and king crab all being harvested in significant quantities. In addition, minor amounts of razor clams are taken locally for bait.

TABLE 37

HERRING AND HERRING SPAWN ON KELP CATCH
PRINCE WILLIAM SOUND AREA

1967 - 1977

(tons) a/

<u>Year</u>	<u>Bait</u>	<u>Used for Roe</u>	<u>Spawn on Kelp</u>	<u>Number of Permits Issued</u>
1967	30.00			
1969		355.7	2.7	3
1970	10.00		95.2	58
1971	20.03	919.2	384.7	487
1972	8.96	1,768.3	299.7	1,000
1973		6,983.0	153.2	504
1974		6,371.0	276.1	295
1975	226.70	5,853.8	458.5	765
1976		2,584.1	242.1	622
1977 <u>b/</u>		2,283.1	208.5	251

a/ Multiply by 907.2 to obtain kilograms.b/ Preliminary.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries. **May 9, 1978.** Annual Management Report, 1977: Prince William Sound Area, Region **II**. Cordova.

Tanner crab is a relatively new fishery in Cordova, With Commercial production dating back only as far as 1968. Catch levels then rose very rapidly, peaking in 1973 when 5,670,000 kilograms (12.5 million pounds) were taken (see Table 38). The catch dropped off to 5,670,000 kilograms (12.5 million pounds) in 1974 and further declined in 1975. To some extent, these declines may have been due to decreased fishing effort because of low prices. However, the major decline which took place between the 1975-76 and 1976-77 seasons was, in the opinion of the Alaska Department of Fish and Game, due at least in part to the imposition of a minimum legal size limit of 13.5 centimeters (5.3 inches) for male tanner crabs in 1976. This was felt to be necessary to protect brood stocks which had previously been heavily exploited.

Four tanner crab districts in the Prince William Sound area were established by regulation in 1977 (Northern, Western, Hinchinbrook and Eastern), with fishing taking place throughout most of the Sound and into the Gulf of Alaska south of Montague Island and eastward along the Gulf of Alaska to Cape St. Elias. No reliable estimates of the sustained yield of tanner crab in the Prince William Sound area are available. A guideline harvest level of 1,587,000 kilograms (3.5 million pounds) for the "Inside" area (Prince William Sound) and 5,443,200 kilograms (12 million pounds) for the "Outside" area (Gulf of Alaska) was never reached and this guideline harvest level was revised downward to a more realistic 1,360,000 to 3,175,200 kilograms (3 to 7 million pounds) in 1977 based on the results of sampling program initiated in 1976. Nevertheless, several Cordova processors expressed optimism that catches in this area

TABLE 38

SHELLFISH CATCH BY SPECIES
PRINCE WILLIAM SOUND, COPPER RIVER AND BERING RIVER AREAS
1960 - 1977

(pounds) <u>a/</u>					
Year	King Crab	Dungeness Crab <u>c/</u>	Tanner Crab	Y!mP-	Razor Clams
1960	246,965	2,722,470	---	2,494	433,930
1961	236,081	2,756,194	---	---	261,628
1962	31,478	2,643,775	---	1,788	208,698
1963	43,569	3,234,383	---	550	86,340
1964	14,028	3,393,171	---	2,124	89,275
1965	5,631	2,174,287	---	2,178	86,477
1966	34,891	999,341	---	---	27,063
1967	47,019	2,529,288	---	374	98,446
1968	192,509	2,280,310	245,100	3,433	72,806
1969	48,080	1,413,993	936,500	2,573	26,887
1970	94,341	742,732	1,292,400	9,888	27,909
1971	144,240	509,824	642,300	6,537	37,972
1972	296,193	724,673	8,550,709	8,627	30,326
1973	207,916	806,377	12,696,852	7,428	30,818
1974	85,379	559,164	9,552,953	13,834	29,747
1975	53,423	818,041	7,132,744 <u>d/</u>	29,036	15,443
1976	17,087 <u>b/</u>	290,332	2,321,348 <u>d/</u>	135,320	1,516
1977	86,595 <u>b/</u>	735,609	2,446,650 <u>d/</u>	174,515	2,160

a/ Multiply by .0004535147 to obtain metric tons.

b/ King crab catches for 1976-77 and 1977-78 seasons, not calendar years.

c/ Includes catches from Icy Bay area until 1969.

d/ Tanner crab catches for 1975-76, 1976-77 and 1977-78 seasons, not calendar years. 1977-78 data current as of March 18, 1978.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries. Annual Management Report, Prince William Sound Area. Juneau. (1972-1973 and 1977 editions).

would be significantly above those recorded in " 976 and 1977 during the 1977-78 season, as did local Department of Fish and Game officials.

Tanner crab is a very important addition to Cordova's fishing and fish processing industry as it has lessened the community's dependence on the salmon fishery and has served to extend the fishing season throughout the winter months. Thus, the recovery of this fishery to a level at least approaching 1975 catch levels is a subject of considerable importance to Cordova's economic well-being.

Dungeness crab has been taken in the Cordova area for many years, with the size of the catch being strongly influenced by West Coast markets. This crab species has a wide range, extending from Southcentral Alaska as far south as California. The fishery originated on the West Coast and that area remains its principal market. Thus Alaska catches have tended to fluctuate in relation to the size of the West Coast catch. West Coast catches dropped sharply in 1978 and Cordova processors expected to process much more Dungeness crab this year as a result.

Despite the sensitivity of Alaska Dungeness crab catches to West Coast market conditions, the Alaska Department of Fish and Game has noted a decline in abundance in Dungeness stocks in the Orca Inlet area adjacent to Cordova. This sheltered area permits participation by small vessels. Its convenience to Cordova also means that fishermen can leave Cordova's boat harbor in the morning, pick up their gear during the day and deliver to the processor in the afternoon. The catch in this area has declined

from an average of around 567,000 kilograms (1.25 million pounds) between 1960 and 1965 to 103,810 kilograms (228,858 pounds) in 1977. In the opinion of the Alaska Department of Fish and Game, factors in this decline may be related to environmental changes caused by the 1964 earthquake or to food availability changes when local processors complied with environmental standards in disposing of crab and salmon wastes. However, neither of these possibilities has been proven.

King crab has traditionally been a minor fishery in the Cordova area and, because this species has not been heavily exploited, it has not been necessary for the Alaska Department of Fish and Game to establish restrictive management districts here. A quota of 226,800 kilograms (500,000 pounds) was set for king crab in this district in 1971 but the high catch to date of 134,356 kilograms (296,200 pounds) is far below this level.

Both red and blue king crabs are taken in the Port Wells/Unakwik area and red king crab is also fished in the Orca Bay/Port Gravina/Port Fidalgo area. Only male king crabs may be taken, with the minimum size for red king crabs being 17.8 centimeters (7 inches) in shell width and that for blue king crabs being 12.7 centimeters (5 inches) in length from the eye notch to the rear center of the carapace. According to local Department of Fish and Game officials, market conditions for blue king crab have recently improved and several crab fishermen have targeted on this sub-species.

The remaining existing fishery of significance in the Cordova area is razor clams. At one time, Cordova often referred to itself as the "Razor Clam Capital of the World" but this is no longer the case. Razor clams have been harvested in this area since the early 1900's but major processing ceased during the 1960's and harvests here subsequently have been primarily for crab bait. According to the Alaska Department of Fish and Game, the commercial harvest of razor clams has continued to decline because of health regulations (i.e. certification of clams and beaches in regard to paralytic shellfish poisoning) and to an apparent decline in clam populations. The clam resource was greatly reduced by the 1964 earthquake which raised many productive beaches in the Copper River delta area as much as 1.8 meters (6 feet). Research by the Alaska Department of Fish and Game in the Orca Inlet area has shown a decreased survival of juvenile razor clams to be caused by changing substrate in the razor clam habitat. This substrate change is primarily the result of deposition by the Copper River and the 1964 earthquake.

Despite declines in the resource, the Cordova area still has sizable clam populations. Aside from razor clams, very large numbers of butter clams and little necks have been identified in this area. According to Cordova Alaska Department of Fish and Game officials, the standing population of butter clams in this area is around 37,146,000 kilograms (82 million pounds) while that for little necks is approximately 55,339,200 kilograms (122 million pounds). The area also has significant populations of Eastern soft shell clams, cockles, pink necks (surf clams) and gapers (horse clams). The commercial potential of these species is believed to

be promising although problems associated with certification of clam species and beaches in the area have delayed their exploitation. Two major Cordova processors, St. **Elias** Ocean Products and North Pacific Processors, are reportedly interested in expanding into larger scale clam processing if these problems with certification can be overcome.

Other fisheries in the Cordova area are presently of minor importance. A small pot shrimp fishery has operated in northern Prince William Sound for several years and a small otter trawl fishery has operated in the eastern portion of the Sound. According to the Alaska Department of Fish and Game, an exploratory trawl fishery for shrimp by one large vessel from Kodiak was conducted in Icy Bay in 1976 but it realized catches of less than 90,720 kilograms (200,000 pounds).

Bottomfish species are the subject of a good deal of interest in **Cordova** although, except for halibut, most groundfish taken in this area are currently used only for bait. Recent surveys by the National Marine Fisheries Service indicate a low level of abundance of **bottomfish** stocks in Prince William Sound itself. However, if a **bottomfish** industry is successfully established elsewhere in the State, it is possible that this fishery may be developed in the Cordova area.

Tourism and Recreation

Except for areas in the vicinity of Whittier, the Prince William Sound region has a largely undeveloped recreation potential. The region has

a spectacular natural setting, supports a wide variety of game animals, birds and marine life, is an exceptional recreational boating area and offers a wide variety of other outdoor recreation experiences. However, although this region is a relatively short distance from Anchorage, it is fairly inaccessible and, as a result, serves only a minor share of that metropolitan area's recreation market.

The rugged mountains with their massive **icefields** and glaciers which ring Prince William Sound **all** but cut this area off from the remainder of **Southcentral** Alaska. **Only** two land routes presently extend into the area. These are the Alaska Railroad spur between Portage and Whittier and the Richardson Highway which extends south from **Glennallen** to **Valdez**. Cordova is connected to both routes via the Southwest marine highway system, although the connection to Whittier is not direct and is only available during the summer months. The community is also linked to road and rail routes leading from Seward via the M/V Tustumena.

Only a minor share of passenger and vehicular traffic using the Prince William Sound ferry route disembarks at Cordova. Furthermore, the lack of strong seasonal variations in passenger and vehicular disembarkations at **Cordova** indicates that this community receives very little tourist traffic via the ferry system (see Table 39). The Whittier to **Valdez** route permits tourists to take a circular trip from Anchorage by returning from **Valdez** via the Richardson and Glenn Highways and this is a popular summer tour route. It also provides an alternate route to the Glenn Highway for tourists traveling from Anchorage to the Lower 48. Cordova,

TABLE 39
PASSENGER AND VEHICLE DISSEMBARKATIONS
CORDOVA, ALASKA
1977

<u>Month</u>	<u>M/V Tustumena</u>		<u>M/V Bartlett</u>		<u>Total</u>	
	P	V	P	V	P	V
January	0	0	484	103	484	103
February	110	21	108	28	218	49
March	175	95	LAY UP		175	95
April	37	17	299	116	336	133
May	72	14	425	197	497	211
June	307	49	269	105	576	154
July	201	24	51	30	252	54
August	310	42	521	172	831	214
September	250	53	206	122	456	175
October	0	12	186	131	186	143
November	0	25	235	62	235	87
December	0	0	393	69	393	69
<u>TOTAL</u>	1,462	352	3,177	1,135	4,639	1,487

Source: Alaska Department of Transportation and Public Facilities,
Division of Marine Highway Systems.

on the other hand, lacks a direct connection to the State highway system and consequently receives few vehicular tourists.

Although Cordova is inaccessible by road and inconvenient to reach by ferry, it does have excellent air service. The community has daily jet flights to both Anchorage and Juneau, weather permitting, plus scheduled service to Anchorage and Valdez by smaller aircraft. As a result, most travel to and from the City by residents and visitors alike is by air.

Relatively few visitors to Cordova at this time can be classed as tourists. The largest single group of visitors is probably transient fishermen and cannery crews, while the community also receives its share of government officials, salesmen, construction workers and other non-tourist visitors. Nevertheless, Cordova does offer a variety of scenic, cultural and recreational opportunities and the City has recently devoted attention to broadening their scope with an eye to drawing more tourist dollars.

A large proportion of tourists now visiting Cordova are sportsmen. Black and brown bear, moose, mountain goat, and sheep and deer attract big game hunters, while the Copper River flats rank as one of the best bird hunting areas in North America. Sport fishermen are attracted by the availability of salmon and halibut, plus flounder, dolly varden, cutthroat and rainbow trout, and clam digging is also a popular pastime. The Forest Service has provided a number of cabins in the general Cordova area which are heavily used by sportsmen (see Table 40).

TABLE 40
FOREST SERVICE RECREATIONAL CABIN USE
CORDOVA, ALASKA
1977

<u>Cabin Location</u>	<u>Main Recreation Activity</u>	<u>Visitor Days</u>	<u>% Capacity</u>
Simpson Bay	Bear hunting, fishing	400	32.2
Double Day	Bear, deer hunting, fishing	300	32.6
Canoe Passage	Deer hunting, fishing	300	32.6
Pete Dahl	Waterfowl observation, hunting	400	65.6
Eyak River	Moose, bear hunting, fishing	300	24.4
Tiedeman Slough	Waterfowl observation, hunting	400	65.6
McKinley Trail <u>a/</u>	Moose, bear hunting, fishing	500	40.7
Martin Lake	Goat, bear, moose hunting, fishing	500	54.3
Hook Point	Bear, deer hunting, beachcombing	300	24.6
Beach River	Bear, deer hunting, beachcombing	500	27.2
Patton Bay	Bear, deer hunting, beachcombing	400	21.7
Stump Lake	Bear, deer hunting, fishing	300	16.3
Log Jam Bay	Bear, deer hunting, beachcombing	300	16.3
San Juan Bay	Bear, deer hunting, beachcombing	500	27.2

a/ No longer in use.

Source: U. S. Forest Service, Chugach National Forest.

The scenery of the Cordova area is spectacular. Charter flights to the Columbia and Bering Glaciers and other points of interest are offered locally, boat charters are available and tourists can also drive the completed section of the Copper River Highway. In town, Mt. Eccles and Mt. Eyak provide a striking backdrop to the community, while both Orca Inlet and Eyak Lake are water areas with a high degree of visual interest.

Aside from hunting and fishing and spectacular scenery, Cordova also offers other tourist attractions. The community has what is probably the best small museum in the State which, since it features local history, is of particular interest to tourists. In addition, the town's large fishing and fish processing industry is itself interesting for tourists, especially the boat harbor area which is a scene of constant activity for most of the year. In addition, a few early structures remain in the downtown area to remind visitors of Cordova's colorful past and special events such as the Iceworm Festival and the Kelp Box Derby are of interest.

One problem associated with the tourist industry in Cordova as in many other Alaskan communities is its seasonality. Cordova already has a highly seasonal economy and the addition of large numbers of summer tourist-related jobs could result in increased off-season unemployment unless the newly created jobs were filled by transient help. Partly to avoid such a situation, the City recently expended a good deal of effort toward developing winter sport attractions in the Cordova area. The most ambitious of these is the Tripod Hill ski area behind town which, it was hoped, would draw visitors from the Anchorage area as well as

local enthusiasts. To date, however, this facility has mainly appealed to local residents.

The completion of the Copper River Highway would cause a fundamental change in tourism in the **Cordova** area. Highway traveling tourists would be able to visit the community in much the same way that they presently visit **Valdez** and additional campground and motel facilities would doubtless be required to accommodate these visitors. Nevertheless, it appears likely that most tourist traffic into **Cordova** will continue to arrive by air. **Cordova** is only 35 minutes from Anchorage by jet, which makes it more convenient to reach than many recreation areas on the Kenai Peninsula or in the **Matanuska** Valley. As Anchorage grows, increasing numbers of residents of that metropolitan area are likely to fly to Cordova to take advantage of the amenities offered by the City, particularly its recreational boating opportunities and winter sports activities.

Another factor which could influence tourism in the Cordova area in the future is the proposed **Wrangell-St. Elias** National Park, the western boundaries of which extend to the Copper River. Although the status of this proposal is dependent on pending D-2 legislation, Cordova could serve as a gateway to this area in the future providing the Copper River Highway is completed.

Military

Military-related activities play a significant role in Cordova's economy. Cordova is the home port for the U.S. Coast Guard cutter, **Sweetbrier**, which has a complement of 52 personnel and which is charged with the responsibility for search and rescue operations in the area between Yakutat and Seward, as well as aids to navigation and other duties. Unlike **Yakutat** where servicemen live in group housing outside town, Cordova's Coast Guard personnel live in the community, many of them with their families. Thus, the impact of Coast Guard activities on **Cordova's** economy is much greater than is the case in Yakutat.

Coast Guard activities are scheduled to play a larger role in Cordova's economy in the future. The Coast Guard has long been interested in establishing a helicopter air station at Cordova to provide more effective rescue and recovery services in the Copper River delta area. This is a major fishing area but it is not accessible by cutter because the waters are too shallow, while the lack of airfields also makes it unreachable by fixed wing aircraft.

As currently planned, development of a helicopter air station at **Cordova's** Mile 13 airport will take place in two phases. The first phase involves the construction of a hangar capable of storing one helicopter and is scheduled to take place in 1979. However, no helicopters or additional personnel will be stationed in Cordova at that time.

Phase two involves establishment of the air station proper. As presently envisaged, this would involve the stationing of two to three helicopters plus approximately 50 Coast Guard personnel and their dependents at Cordova (an estimated total of 150 people) for a total cost of between \$13 and \$14 million. Establishment of this facility is ranked as the #1 priority of the 17th Coast Guard District for 1981 although Coast Guard planners in Juneau indicated that construction is likely to be delayed beyond that date.

Because Cordova has few year-round vacant units, Coast Guard personnel already stationed in the community experienced difficulties in obtaining standard housing at a reasonable cost. Consequently, the Coast Guard built 20 units (in five **four-plexes**) off Seventh Street uphill from Lake Avenue. An adjacent site has been acquired for housing required for helicopter air station personnel, estimated at an additional 32 units for a three helicopter station. However, the Coast Guard has indicated that it would prefer that housing required for this planned facility be provided by the private sector.

Other

Although mining played a major role in Cordova's **early** development, the exploitation of both metallic and non-metallic minerals in this region is currently at a low level. Furthermore, Cordova felt very little impact from the April 1976 Gulf of Alaska outer continental shelf oil and gas lease sale although local expectations ran high at one point.

Even higher expectations were expressed over the proposed El Paso gas line route from the North Slope which was to terminate at Gravina Point near Cordova. However, these expectations subsided with the selection of the Alcan route through Canada.

The wood products industry has long been a small but significant element in Cordova's economy. In the early days, timber was cut sporadically in response to demands for mine timbers, railroad ties, fish traps, dock pilings and general community needs. Today, a small sawmill on airport property at Mile 13 of the Copper River Highway cuts spruce for local needs. Another mill at Point Whittshed has been closed down for several years.

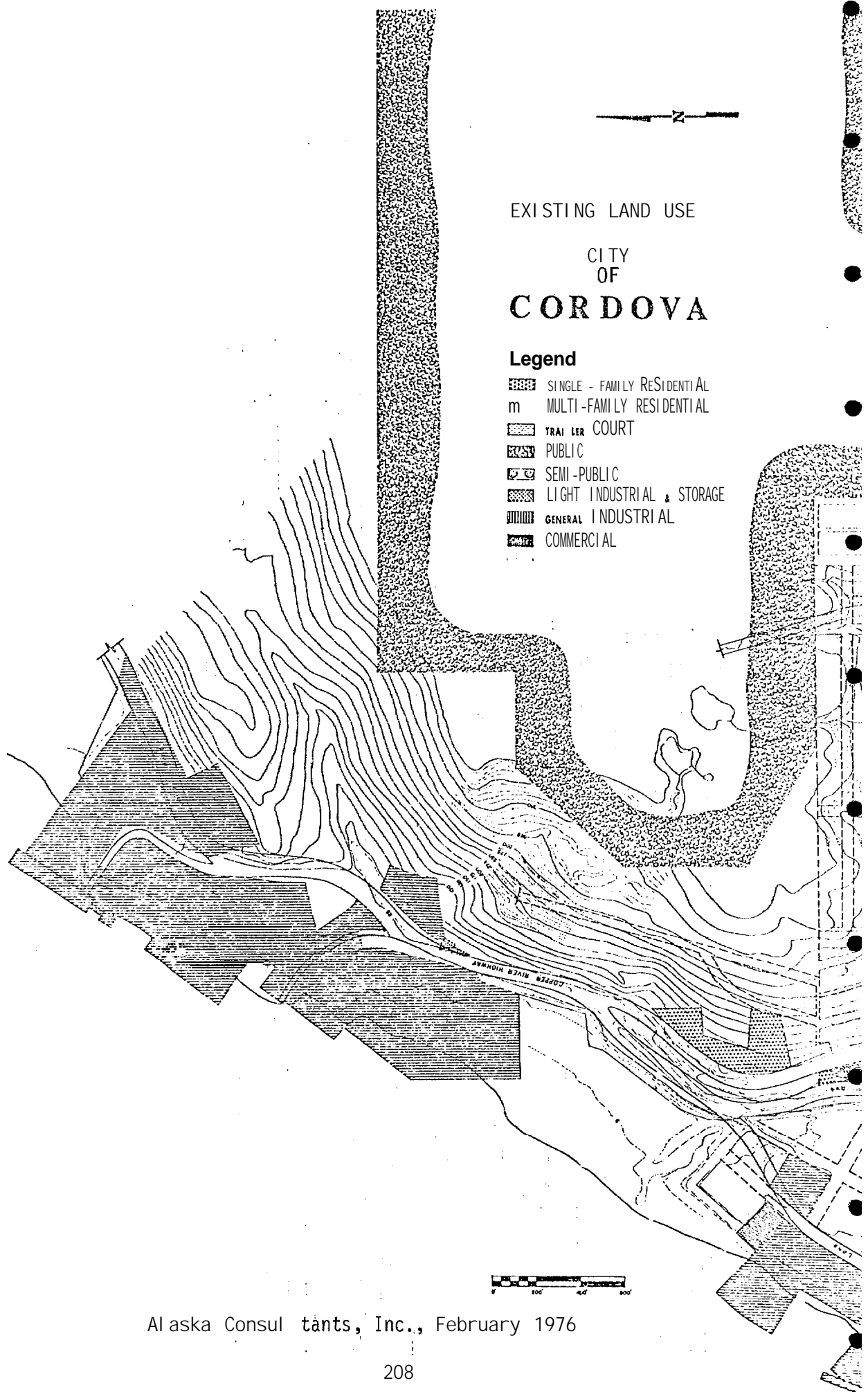
The potential for economic growth derived from wood products in the Cordova area is extremely modest. The most productive timber stands in the Chugach National Forest are on Afognak Island which is remote from Cordova. According to U.S. Forest Service officials, most other potentially valuable stands have been selected by village corporations under the terms of the Alaska Native Claims Settlement Act so that lands which will remain in the Forest generally have a higher value for recreation than they do for wood products. Larger sawmills, such as the Louisiana Pacific mill in Seward, have recently experienced a great deal of difficulty in obtaining log supplies so that even under conditions of greater exploitation of the region's timber resources, it is likely that timber would be processed by existing sawmill facilities.

One Forest Service program, however, has had a significant impact on the Cordova area. This is the Young Adult Conservation Corps (YACC) program. As of August 1978, there were 50 enrollees in this program in the Cordova area, with eligibility determined by age (between 16 and 24) and employment status (out of school and out of work). The enrollees are housed in a former construction camp at Mile 27 of the Copper River Highway which is staffed by 13 full-time Forest Service employees. YACC enrollees perform a wide variety of jobs in the public sector but not those which could be construed as taking work away from private contractors (i.e. not covered by Congressional appropriations). Typical assignments include trail maintenance, maintenance of campgrounds and cabins, goose and gull banding, vehicle maintenance and rehabilitation of salmon streams. YACC enrollees are also "loaned" to other public agencies on request. In Cordova, for example, enrollees have painted the Alaska Department of Fish and Game's office building, have been involved in the same Department's tagging program, have provided temporary secretarial assistance to the State Division of Fish and Wildlife Protection, have repaired floats at the small boat harbor, shoveled snow and a number of other activities.

Land Use

OVERALL PATTERNS

Like many Alaska coastal towns, Cordova's present land use pattern has been shaped by its physical setting, its past, and the dependence of its



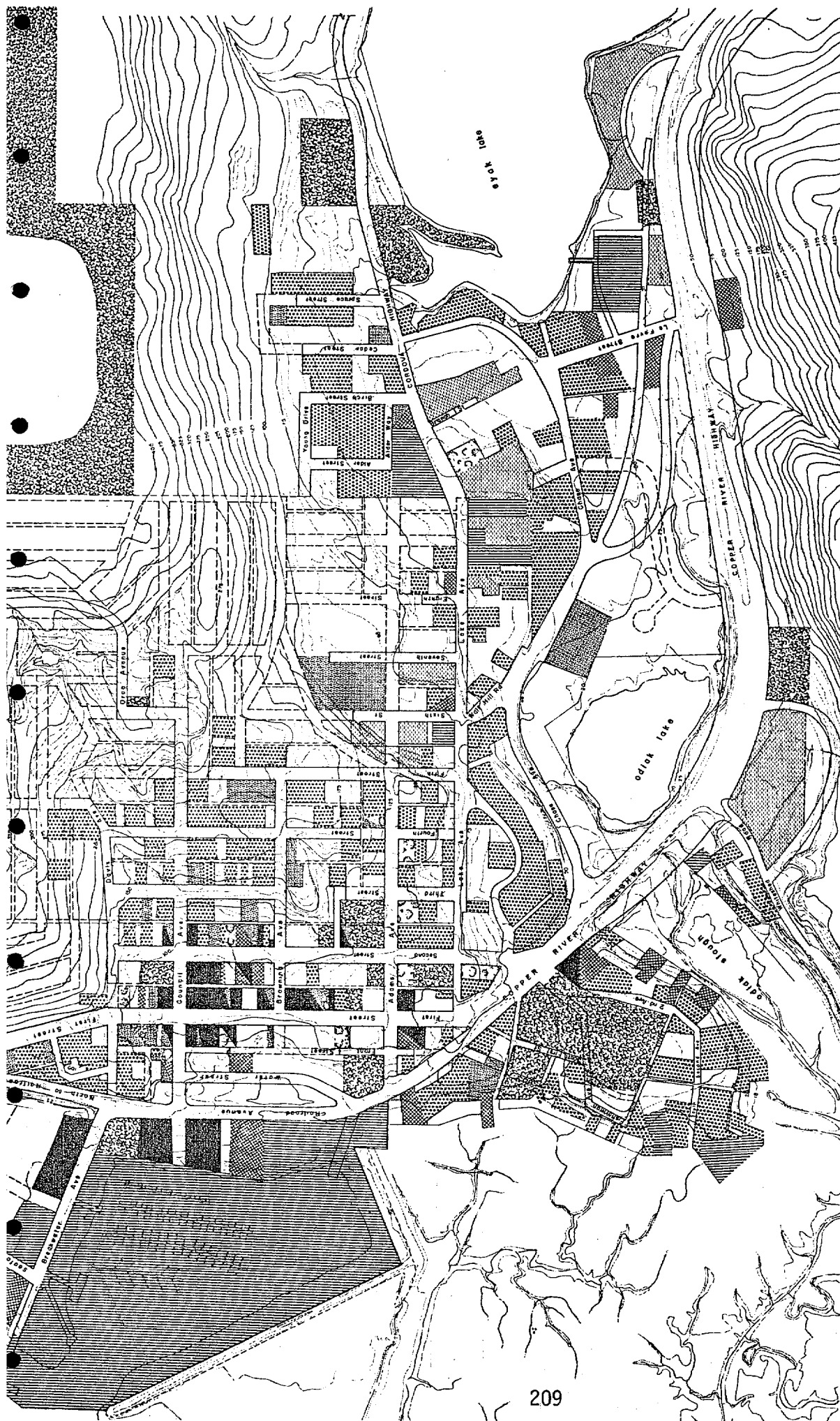


FIGURE 12

industries on a waterfront location. More recently, the 1964 earthquake resulted in major changes in the use of waterfront lands in this community.

Topography has been a major factor in determining the form of Cordova's development. The presence of Mount Eyak to the north and Mount Eccles to the south have limited most development to the foothills of Mount Eyak or to a narrow and often poorly drained valley between the two mountains. Outside these two areas, relief has for the most part restricted development to a narrow strip along both sides of Eyak Lake and out Whitshed Road (see Figure 12).

Cordova's basic development pattern was established at the turn of this century. At that time, the foothills of Mount Eyak were platted on a grid which generally ignored the topography and consequently resulted in an inefficient use of land. Platting in the area between Eyak Lake and Odiak Slough, particularly between Lake and Chase Avenues, is also poor as many lots have no street access and, thus, land that could otherwise be developed is sometimes rendered unusable. Finally, on the peninsula where the high school is located, the platting generally ignored the needs of the automobile so that access to some properties is difficult for all but foot traffic.

Another factor shaping the form of Cordova's development was the Copper River and Northwestern Railroad which followed a right-of-way roughly approximating the present day route of the Copper River Highway and Railroad Avenue. Unlike most Alaskan coastal communities where the

business district grew up adjacent to the main commercial dock, the presence of the railroad along the waterfront in Cordova forced commercial interests to locate further uphill.

The 1964 earthquake resulted in the uplifting of land by 2 to 2.3 meters (6.5 to 7.5 feet) in Cordova and forced major changes in the use of waterfront lands in this community. The construction of a new small boat harbor and new public and private dock facilities had to be undertaken after the earthquake, as did the dredging of Orca Inlet. Dredged materials from this source were used to create the Cordova industrial park and fill was also added on the east side of the small boat harbor in the Tidewater development park. These activities substantially increased the amount of waterfront land suitable for industrial use and Cordova's industrial park area is now the site of two modern seafood processing plants. The earthquake also left waterfront land on the peninsula north of Odiak Slough high and dry. Boat houses located there are no longer accessible by water and some are now used for light industrial storage.

Most of the City's commercial district is still situated on First and Second Streets between Council and Adams Avenues. However, since the earthquake, a number of waterfront-related commercial uses have been established on fill areas adjacent to the boat harbor along Railroad Avenue and in the Cordova industrial park. A visual survey in the summer of 1978 revealed few changes in this basic pattern although the downtown business area has grown slightly and a new dine and dance spot has opened up outside town on the Copper River Highway.

Cordova's industrial land use pattern reflects the locational requirements of the City's major industry, fishing and fish processing. General industrial uses are concentrated within three distinct areas of the community. These are the New England cannery complex at the north end of Orca Road, the area between the old Alaska Packers' plant and Ocean dock, and the Cordova industrial park and adjacent boat harbor area. Outside these areas, general industrial uses include some heavy equipment storage off Lake Avenue, the municipal power plant by Eyak Lake and the City dump and sewage treatment plant out Whitshed Road.

Cordova's residential development is mostly concentrated in the remaining areas of town where relief and drainage allow - uphill from the business district, in the lower portion of town off Chase and Lake Avenues and on the peninsula where the high school is located. In addition, an increasing amount of more scattered residential development is taking place along the shore of Eyak Lake and out Whitshed Road. The new Whiskey Ridge subdivision out Whitshed Road near the sewage treatment plant, however, is being developed to urban standards as community water and sewer services are scheduled to be extended here in the near future.

A tabulation of occupied lands and tidelands within Cordova's 16.5 square kilometer (6.35 square mile) corporate limits in 1975 indicated that, excluding platted streets, a total of 169.3 hectares (418.4 acres) was in use at that time (see Table 41). However, nearly half of this developed area (85 hectares or 210 acres) was taken up by the Tripod Hill ski area, while the Eyak Lake Airstrip accounted for an additional

TABLE 41

EXISTING USE OF LANDS AND TIDELANDS a/
CITY OF CORDOVA
1975

<u>Land Use</u>	<u>Land Area</u> <u>(acres) b/</u>	<u>Percent of</u> <u>Developed Area</u> %
Residential	70.11	16.8
One & Two Family	(45.31)	(10.8)
Multi-Family	(6.72)	(1.6)
Trailers on Lots	(3.55)	(0.8)
Trailer Courts	(14.53)	(3.5)
Commercial	7.00	1*7
Industrial	88.40	21.1
Light Industrial	(8.30)	(2.0)
General Industrial	(80.10)	(19.1)
Public	251.08	60.0
Eyak Lake Airstrip	(32.00)	(7.6)
Tripod Hill Ski Area	(208.58)	(49.8)
Other Public	(10.50)	(2.5)
Semi-Public	1.85	0.4
<u>TOTAL</u>	<u>418.44</u>	<u>100.0</u>

a/ Excluding platted streets.

b/ Multiply by .4046945 to obtain hectares.

Source: Alaska Consultants, Inc. February 1976. City of Cordova
Comprehensive Development Plan. Anchorage.

13 hectares (32 acres). Except for the Cordova Airport and related facilities at Mile 13 of the Copper River Highway, a YACC camp at Mile 27 plus a number of residences out Whitshed Road and along both sides of Eyak Lake, little development has taken place outside Cordova's present corporate limits.

Cordova's first comprehensive development plan was prepared by the Alaska State Housing Authority in 1963. However, the 1964 earthquake which uplifted the community by 2 to 2.3 meters (6.5 to 7.5 feet) made many of this plan's recommendations obsolete. A completely new comprehensive development plan was prepared for the City in 1976 by Alaska Consultants, Inc. This document includes plans for land use, community facilities and transportation facilities and recommended implementation measures. To ensure that the 1976 plan was consistent with community aspirations and desires, a 173-question survey was undertaken by Alaska Consultants, Inc. and its findings were incorporated into the planning process.

A coastal zone element to be added to the Cordova comprehensive plan is presently under contract to Kramer, Chin & Mayo, Inc. and is scheduled for completion by March 1979. The area under study extends beyond Cordova's present corporate boundaries, from the Copper River to Nelson Bay. According to the Community Planning Division of the Alaska Department of Community and Regional Affairs, the Cordova coastal zone management district (the boundaries of which coincide with Cordova's corporate limits) is scheduled to submit its coastal management plan to the State Coastal Policy Council by December 4, 1979.

DEVELOPMENT CONSTRAINTS

The major constraint on development in the immediate Cordova area is the topography. Other significant constraints are drainage conditions and the poor platting of land in most areas of town.

Topography is a serious inhibiting factor on development in the City, especially in the area uphill from the commercial district where grades are often in excess of 15 percent, making construction difficult and expensive. The use of land in this area has been made even more difficult by the platting which generally disregarded the topography so that many streets are not buildable for all of their length and access to a good deal of privately owned property is not possible unless these areas are **replatted**.

Outside the main areas of town, the topography generally limits development to a narrow strip along both sides of Eyak Lake, a short distance north of town and out Whitshed Road. Although still a factor, the topography is less restrictive out Whitshed Road and this area should see more development at urban densities, such as the Whiskey Ridge subdivision currently being developed, in the future.

Poor drainage is another development constraint in Cordova, especially in the low lying area between Eyak Lake and Odiak Slough. Cordova normally experiences very heavy precipitation (statistics for the City itself indicate an average of 426.2 centimeters or 167.8 inches of

precipitation per year including 296.4 centimeters or 116.7 inches of snow) and the bedrock underlying much of the community is impermeable or has poor absorption capacity. In areas of slope, very heavy amounts of surface runoff take place. However, in areas of little slope where the surface layers are impermeable, swampy conditions occur.

East of Eyak Lake between the Heney Range and the Cordova Airport at Mile 13 of the Copper River Highway, the Copper River flats form another barrier to development. This area is a vast tidal marsh which is used by large numbers of migratory birds on the Pacific flyway and which is unsuitable for urban development.

Because developable land within convenient reach of downtown Cordova is already in short supply, future residential development in this community will have to take place at higher densities if major population growth occurs. Existing development could be made more efficient through replanting, and the construction of more housing outside the main area of town can be anticipated, but the severe constraints imposed by topography and drainage will eventually force higher densities. Thus, using the amount of vacant developable land as a basis for determining future land requirements for housing is not realistic in Cordova's case.

A constraint on future industrial development at Cordova is a shortage of undeveloped waterfront sites with access to municipal water supplies. The Cordova industrial park was added following the 1964 earthquake but most land here has either been developed or reserved for development.

The City recently added a 2.4 hectare (6 acre) fill area north of Ocean dock which could be further expanded if the need arose, but the creation of industrial land by this means is expensive. The new industrial area is considered to be suitable for uses such as oil-related development whereas the Cordova industrial park is centered around fisheries-related activities.

Unlike waterfront industrial development, there are essentially no development constraints on airport-related industrial development in the Cordova area. The State airport at Mile 13 of the Copper River Highway is an excellent facility and able to accommodate additional users with little difficulty.

LAND STATUS

Most land in the Cordova area is presently under the control of the federal government. The City is surrounded on three sides by the Chugach National Forest and, in fact, the Forest boundary extends inside Cordova's corporate limits. Approximately 1,214.1 hectares (3,000 acres) of Forest land at Mile 13 on the Copper River Highway were deeded to the State for the Cordova Airport, while minor amounts of acreage in the National Forest have passed into private ownership for mineral activity and industrial sites.

Prior to passage of the Alaska Native Claims Settlement Act, the State had selected and received tentative approval for 2,428.2 hectares

(6,000 acres) of National Forest land in the Cordova area under the National Forest community grant selection program. In June 1978, however, 1,310 hectares (3,237 acres) of the State selection were disallowed by the Department of the Interior because of claims upon it made by the Eyak Corporation under the terms of the Alaska Native Claims Settlement Act. Of the remaining State land, the City of Cordova is entitled to 95.1 hectares (235 acres). As of August 1, 1978, the City had pending nominations on 84.2 hectares (208.05 acres) of its entitlement.

With an enrollment of 353 persons, the Eyak Corporation is entitled to select 5 townships or 46,539.9 hectares (115,000 acres) of land under Section 12(a) of the Alaska Native Claims Settlement Act. Because the Act provides for a buffer zone between a home rule city and Native land selections, the Eyak Corporation could not select land within 3.2 kilometers (2 miles) of the City's boundaries. Outside this zone, the Corporation chose all land available to it within the core township as required by law. Remaining selections within the National Forest were lower elevation lands along the coast and the Copper River Highway. Selections within the Forest, however, were limited to 3 townships or 27,972.5 hectares (69,120 acres). An additional 0.81 hectares (2 acres) were chosen from deficiency lands beyond the National Forest boundary near Miles Lake. The village corporation is entitled to the surface rights of approximately 10,117.4 additional hectares (25,000 acres) of Chugach Regional Corporation lands in the area under Section 12(b) of the Claims Act.

The Eyak Corporation received interim conveyance of its land in June 1978, however, appeals were lodged by three parties. These included the corporation itself, the State Department of Transportation and Public Facilities, and Morpac Corporation, a local fish processor. According to the Department of the Interior's Solicitor's Office, the legal questions involved are technical rather than substantive and should be settled with little difficulty.

Several of the D-2 proposals being considered by the U.S. Congress involve land or waters in the Cordova area. The proposed Wrangell-St. Elias National Park/Preserve stretches 273.6 kilometers (170 miles) north from the Gulf of Alaska and includes 4.9 million hectares (12 million acres) of mountains and forelands. The proposed park/preserve is bordered on the west by the Copper River and the Canadian Kluane National Park and Territorial Game Sanctuary on the east. Most park land is proposed for wilderness designation with the remainder to be further studied for inclusion in the wilderness system. None of the lands within the 971,000 hectare (2.4 million acre) preserve would be designated as wilderness, however, two rivers within the park/preserve are proposed for inclusion in the National Wild and Scenic River System. These are the 201.2 kilometer (125 mile) long Chitina River which is contained entirely within the proposal, while the Copper River originates within the proposal and forms its western boundary for 378.2 kilometers (235 miles).

The National Park Service master plan for the Wrangell-St. Elias proposal anticipates that primary access will be from the Richardson Highway which permits access to the towns of Chitina and Slana, just outside the western and northern boundaries of the preserve. Primitive roads connect these fringe developments with the interior of the system. In addition, lakes, river bars, meadows and improved bush strips provide small plane access. While Cordova is not seen as the primary staging area for visitors to the proposed park/preserve, completion of the Copper River Highway connection to the Richardson Highway would make this community an alternate gateway.

HOUSING

At the time of Alaska Consultants' 1975 land use survey conducted in connection with the preparation of the Cordova Comprehensive Development Plan (February 1976), a total of 28.3 hectares (70 acres) of land within Cordova's corporate limits was in residential use. Of this, one and two family units accounted for 18.3 hectares (45.3 acres), multifamily units for 2.7 hectares (6.7 acres), trailers on lots for 1.4 hectares (3.5 acres) and trailer courts for 5.9 hectares (14.5 acres). Excluding bunkhouses and other seasonal accommodations, 640 occupied dwelling units were counted in the Cordova planning area, of which 585 were within Cordova's corporate limits (see Table 42).

Cordova has a high proportion of multifamily units and trailers. In 1975, only about half of the community's housing stock was in one and

TABLE 42

HOUSING INVENTORY
CITY OF CORDOVA
1975

<u>Housing Type</u>	<u>Number of Units</u>	<u>Percent of Total</u>
One and Two Family	298	<u>50.9</u>
Single family	(m)	(46.8)
Duplex	(24)	(4.1)
Multi-Family	167	<u>28.6</u>
Apartment buildings	(132)	(22.6)
Apartments associated with other uses	(35)	(6.0)
Trailers	120	<u>20.5</u>
Trailers on lots	(28)	(4.8)
Trailers in courts	(92)	(15.7)
<u>TOTAL</u>	585	<u>100.0</u>

Source: Alaska Consultants, Inc. February 1976. City of Cordova,
Comprehensive Development Plan. Anchorage.

two family units whereas almost 30 percent were in multifamily units and slightly over 20 percent were in trailers. The high proportion of trailers reflects the difficulty and expense involved in obtaining a lot and constructing single family housing in this community while the town's relatively high proportion of transient residents is undoubtedly also a factor.

For practical purposes, Cordova is assumed to have a zero housing vacancy rate. The community's population is greatly swollen during the summer months when the salmon season is at its peak. However, many of these people do not live in conventional housing units listed above. A count by Alaska Consultants in 1978 found 250 spaces in cannery bunkhouses, close to 50 rooms and a dozen apartments in hotels and boarding houses which normally cater to transient fishermen, a YACC camp at Mile 27 of the Copper River Highway housing 50 enrollees and 13 staff members, plus an undetermined number of people living on boats moored in the small boat harbor. All told, Alaska Consultants estimated that 550 persons lived in these types of transient accommodations but this figure is doubtless exceeded during the height of the salmon season.

As previously stated, most housing in Cordova lies either uphill from the commercial district or in the area between Eyak Lake and Odiak Slough. The area uphill from the business district includes a mixture of single family homes and multifamily units while the area between Eyak Lake and Odiak Slough is a mixture of single family homes, multifamily units, trailers on individual lots and trailer courts. Poor platting in

the latter area has made efficient development very difficult. In the east end of town, the distance between Lake and Chase Avenues reaches 158.5 meters (520 feet) in some locations and individual lots lie as much as five deep with the middle lots having no formal street access. Reflecting the difficulties facing conventional residential development, several trailer courts have been established in this area, a form of housing which is most compatible with the existing platting. Except for a trailer court at the corner of Whitshed Road and the Copper River Highway and another on the south side of Eyak Lake near the power plant, most residential development outside the main areas of town is either single family homes or trailers on individual lots.

A survey of structural conditions undertaken at the same time as the 1975 land use survey counted 173 dwelling units, or 30 percent of all those within the City limits, as being in good condition. Units in this condition were judged to be in need of no major repairs. Another 270 units (46 percent) were considered to be in fair condition, defined as being basically sound structures in need of some repairs. The remaining 142 units (24 percent) were considered substandard, defined as being basically unsound and where the cost involved in bringing them up to fair condition would probably outweigh their value.

Age was cited as the major factor in Cordova's high proportion of substandard structures. The community experienced very slow rates of population growth for many years, so that little residential construction took place. Thus, almost 45 percent of the residential structures in

the Cordova-McCarthy census division in 1970 were built before 1940, compared with slightly less than 12 percent for the State as a whole.

Although substandard units occur in all areas of town, they are most concentrated in Old Town, on the peninsula north of Odiak Slough, and on the downhill side of First Street north of Observation Avenue. Efficient residential development in Old Town is particularly difficult since the platting in this area, as mentioned earlier, is a confusing mixture of large unsubdivided tracts and smaller lots, many with no street access.

A visual review of Cordova's housing by Alaska Consultants in 1978 revealed few changes since 1975. Another trailer court has been established in the area between Eyak Lake and Odiak Slough and more bunkhouse units have been constructed. Outside the main residential areas of town, a good deal of new single family housing has been added along both sides of Eyak Lake and out Whitshed Road. In the latter area, development of the Whiskey Ridge subdivision near the sewage treatment plant is also now getting underway.

Additional multifamily units are scheduled to be built in Cordova. The Alaska State Housing Authority (ASHA) plans to construct 20 units of Section 8 (elderly) housing behind the old City Hall in 1979 and the Coast Guard has identified a need for 32 units in the community to house personnel associated with a helicopter air station scheduled to be constructed in 1981. A site in the lower end of town off Seventh Avenue has been reserved for future Coast Guard housing.

Community Facilities and Services

PUBLIC SAFETY

Police

The Cordova Department of Public Safety is responsible for police protection within Cordova's corporate limits while law enforcement outside town is under the jurisdiction of the Alaska Department of Public Safety. Both entities have been housed in Cordova's new City Hall since December 1977 although their offices are physically separate with State officials being located on the second floor of this building.

As of August 1978, the Public Safety Department had six full-time police officers, including the police chief, plus five dispatcher/clerk employees. These people occupied four offices and a squad room on the ground floor of the new Cordova City Hall. A three cell jail is also located within this structure.

Until recently, law enforcement services outside Cordova's corporate limits were provided by the Division of Alaska State Troopers. A trooper is expected to be re-stationed in the community later in 1978.

In the interim, however, law enforcement in these areas is being handled by the State Fish and Wildlife Protection Division. The Division has seven full-time officers stationed in Cordova of whom three (including a pilot) are based onshore and four are assigned to the Division's 19.8

meter (65 foot) vessel, the "Enforcer". In addition, four full-time temporary employees are hired for 3 to 4 months in the summer. According to Fish and Wildlife Protection personnel, although its officers all have trooper training, they are generally unfamiliar with detailed investigative work and periodically have to request assistance from the Division of Alaska State Troopers.

Serious crime in Cordova is rare. For example, the community has had only 1 homicide per year for the last three years. According to the police chief, close to 80 percent of all arrests in the community are alcohol-related a phenomenon typical of most Alaska areas. Although the sizable influx of fishermen and fish processing workers into Cordova during the summer months occasionally results in some law enforcement problems, criminal complaints occupy only a minor share of local police work (see Table 43).

The present Cordova jail replaced a grossly inadequate facility located behind the old City Hall. The new jail has three cells, one of which is reserved for either women or juveniles, with each cell having two bunks. According to the police chief, the jail is often filled to capacity and averaged 8 to 9 occupants during the summer of 1978. Although this rate of occupancy means that some prisoners have to sleep on makeshift bedding, the City has no immediate plans to enlarge its jail facilities. Prisoners are fed TV dinners except if the jail is especially overcrowded and food is then brought in from local restaurants.

TABLE 43

CRIMINAL ARRESTS AND TRAFFIC VIOLATIONS
CORDOVA, ALASKA
JUNE 30, 1977 - JULY 1, 1978

<u>Criminal Arrests</u>	<u>Number</u>
Criminal Homicide	1
Manslaughter	0
Forcible Rape	0
Assault With Deadly Weapon	6
Burglary	5
Larceny	14
Auto Theft	13
Narcotics Violation	11
Assault and Battery	25
Simple Assault	9
Disorderly Conduct	36
Suicides	0
Suicide Attempts	4
Drug Overdoses	1
Mentally Deranged	11
Sodomy	1
 <u>Traffic Citations</u>	
Moving Violation Citations	205
Parking Citations	861
Drunk Driving Citations	31

Source: Cordova Department of Public Safety.

One recent improvement in local public safety response in Cordova has been the installation of the national 911 emergency telephone number to contact police, fire and ambulance services and which is monitored by Public Safety Department dispatchers. The police dispatch section also monitors the following emergency systems - civil defense phone, two bank alarms, two private alarms, State Trooper radio, City police base radio, citizens band radio and a single side band radio which was installed to monitor marine frequencies.

Fire Protection

The Cordova volunteer fire department operates out of the new City Hall and provides fire protection services throughout the community and, when possible, also to areas outside Cordova's corporate limits. A second volunteer fire department serves the State airport complex at Mile 13 of the Copper River Highway. The City and Mile 13 volunteer fire departments have operated under a mutual aid agreement since 1976, with mutual aid being requested twice during the first year of this agreement.

For administrative purposes, the Cordova volunteer fire department has been included within the Cordova Department of Public Safety since October 1976. The fire department is staffed by a full-time fire chief who has an office in the Public Safety Department. Other personnel include about 20 volunteer firefighters and 12 emergency medical technician (EMT) volunteers who operate the ambulance. Some EMT personnel are also volunteer firefighters, with the total number of volunteers currently associated with the fire department numbering about 24.

City firefighting equipment and an ambulance are housed in a three bay annex to the new City Hall and includes a 1942 truck with a 946.2 liter (250 gallon) tank, a 1953 jeep pumper, a 1963 fire truck with a 2,838.8 liter (750 gallon) tank and a 1976 fire truck with a 3,875 liter (1,000 gallon) tank which is capable of pumping at a rate of 78.8 liters per second (1,250 gallons per minute). According to the fire department's 1976 annual report, delivery of the 1976 fire truck brought the total pumping capacity of the department's equipment up to 173.8 liters per second (2,750 gallons per minute), a rate which matches the water main capacity. Other equipment operated by the fire department includes a 1974 ambulance, a 1953 model rescue truck which is fully equipped with emergency gear, including diving equipment, and a 1971 model panel truck which is used by the fire chief but which also carries firefighting equipment.

The Mile 13 volunteer fire department is staffed by approximately 20 volunteers and has a 31.5 liters per second (500 gallons per minute) pumper with a 1,892.5 liter (500 gallon) tank. This vehicle also carries 151.4 liters (40 gallons) of light water concentrate. In addition, the State Division of Aviation maintains a crash truck at the airport. This vehicle is a 63.1 liter per second (1,000 gallon per minute) pumper with a 4,542 liter (1,200 gallon) tank and carries 416 liters (110 gallons) of light water concentrate. The Mile 13 fire station has two tanks which hold a total of 20.8 kiloliters (5,500 gallons) of water. The station also has a well house with 75.7 kiloliters (20,000 gallons) of storage capacity although about half of that capacity is currently being used.

Cordova has an Insurance Services Office class rating of 6 for all areas within its corporate limits. Before 1976, however, areas which were annexed to the City in 1972 had a rating of only 9. Because of this improved rating, insurance premiums have been significantly lowered in those areas. According to the fire chief, insurance rates throughout the community have recently been reduced by an average of around 12 percent although the ISO rating has remained the same.

Cordova has had more than its share of major fires, with much of the community's downtown area having been destroyed within the past fifteen or sixteen years. Major fires include the loss of a Baptist church and parsonage in 1962, an entire block of downtown buildings in 1963; a cleaners, grocery store and apartments in 1964; the municipal dock in 1968; and another major downtown fire in 1969 which destroyed the old Northern Hotel, a theater, restaurant, laundromat and a couple of other structures on the west side of First Street. Much of the area destroyed in the 1969 fire is still vacant.

Cordova has had no devastating fires since 1969. However, fire destroyed an FAA multi-family housing unit at the airport in January 1976 and the New England cannery complex sustained a \$300,000 fire loss in October 1976 when an office, a large warehouse and a maintenance shop were destroyed. For a listing of the types of fires to which the Cordova volunteer fire department responded in 1976 and 1977, see Table 44. Although 1977 saw more responses by the City fire department, total fire losses in 1977 amounted to \$187,275, well below the \$805,705 reported for 1976.

TABLE 44

CORDOVA VOLUNTEER FIRE DEPARTMENT RESPONSES
1976 AND 1977

	<u>1976</u>	<u>1977</u>
Structural Alarms	24	17
False Alarms	8	11
Vehicle Fires	8	10
Boat Fires	4	5
Hazardous Conditions	7	14
Emergency Assists	3	5
Search and Rescues	4	4
Underwater Rescue & Recovery	3 a_/	6 <u>b/</u>
<u>TOTAL</u>	<u>61</u>	<u>72</u>

a/ Assisted four injured persons and recovered three bodies.

b/ Assisted seven injured persons and recovered one body.

Source: Cordova Volunteer Fire Department. Annual Reports (1976 and 1977).

HEALTH AND SOCIAL SERVICES

The Cordova Community Hospital is located on Second Street between Lake and Adams Avenues. This facility was built by the American Baptist Home Mission Society in 1955 and was acquired by the City of Cordova in 1971. Since it acquired this building, the City has made several major structural improvements such as installing a sprinkler system in 1975 and making several repairs to the roof. However, the most significant improvement has been the enlargement of a former partial basement to a full basement so that all medical related services in the community except for dental (and **vetinary**) services are now provided from a single location.

The Cordova hospital has 22 beds and a nursery, with 8 of the beds being for nursing home care. The hospital is equipped for surgery, obstetrics, physical therapy, nursing home and general hospital care. In addition, a private doctors' clinic is located in the hospital basement, as is the Cordova Community Services unit which features mental health and alcoholism counseling, and the State-operated Cordova Health Center.

Staffing at the Cordova hospital includes 2 administrators, 7 full-time and 2 part-time nurses, 3 full-time and 2 part-time nurse aides, 2 laboratory technicians (one of whom is also an X-ray technician), a physical therapist, a medical records person and a complement of kitchen, cleaning, maintenance and clerical personnel. Hospital laundry is handled by a private Cordova firm. However, this company indicated to Alaska Consultants in August 1978 that it was about to go out of business and the hospital plans to ship its laundry to Anchorage instead.

Professional personnel at the Cordova Community Services unit include a psychologist, a mental health counselor and an alcoholism counselor, with the salary of the alcoholism counselor and part of that of the psychologist being funded through the Health for Underserved Rural Areas (HURA) program. Funds from this source were also used by the City to expand the hospital basement.

The Cordova Health Center is staffed by a State health nurse and a State social worker. The Cordova Medical Clinic, a private clinic, is staffed by 3 doctors and a complement of nursing and clerical personnel.

Patient usage of the Cordova Community Hospital has remained fairly steady during the past seven years (see Table 45), averaging between about 900 and 1,300 patient days per year for general hospital care and between 2,100 and 2,200 patient days per year for the nursing home portion of this facility. A large share of the general hospital patients are admitted for obstetrical care and relatively minor ailments as specialists serve Cordova only on an itinerant basis and persons who require specialized care often find it more convenient to travel to Anchorage. By contrast, the nursing home portion of the hospital is heavily used and, according to hospital personnel, at least 5 of the 8 nursing home beds are normally filled.

Cordova's Community Hospital offers a wide range of health-related services which are vastly superior to those offered by most Alaska towns of this size. Furthermore, most Cordova residents seem well satisfied

TABLE 45
PATIENT USAGE
CORDOVA COMMUNITY HOSPITAL
FY 1971 - FY 1977

	<u>Number of Patient Days</u>						
	FY 1971	FY 1972	FY 1973	FY 1974	FY 1975	FY 1976	FY 1977
General hospital	1,143	1,254	874	1,162	1,056	1,183	1,324
Nursing home	2,258	2,170	2,010	2,178	2,105	2,123	2,135
<u>TOTAL USAGE</u>	<u>3,401</u>	<u>3,424</u>	<u>2,884</u>	<u>3,340</u>	<u>3,161</u>	<u>3,306</u>	<u>3,459</u>

Source: Cordova Community Hospital.

with the level of care which they receive, as indicated in an April 1975 survey by Alaska Consultants, Inc. in which 90 percent of the people interviewed rated Cordova's hospital services as either good or acceptable. It should be noted that this survey was conducted prior to the recent major improvements to the hospital facility.

Enlargement of the hospital basement area has made possible several needed improvements in the interior layout of the hospital. For example, in August 1978, a new laboratory with a cardiac monitoring room was in the process of being added. However, according to hospital administrators, the Cordova hospital is too small to meet the growing health and social services needs of the community. A new facility is tentatively planned to be built within the next five years. However, no site has yet been selected

EDUCATION

As a home rule city under Alaska law, the City of Cordova is also a school district and thus has the responsibility for constructing, maintaining and operating its own system of public schools. The local school district serves the entire Cordova road-connected area but is reimbursed by the State for providing education services to children who live beyond Cordova's corporate limits. The State also provides bus service for children from outside town. In addition, State-sponsored community college courses are offered locally.

Administratively, the Cordova public school system is divided on an elementary (kindergarten through the 6th grade) and high school (7th through the 12th grade) basis. Until 1955, all Cordova students attended a single school located on Browning Avenue uphill from the downtown area. However, the Mt. Eccles elementary school was built in 1955 and the present Cordova high school was constructed in 1967. The original school building was sold and has since been converted into apartments.

Elementary School Facilities

The Mt. Eccles elementary school is located on a 3,251.5 square meter (35,000 square foot) site bounded by Second and Third Streets and Adams Avenue in the area uphill from the downtown business district. With close to 90 percent of the site covered by school buildings, very little outdoor recreation space is available for elementary school children although students do have access to an approximately 700 square meter (7,500 square foot) playground area across the street.

The school houses 20 classrooms of which one is a vocational education shop and three are special education classes, plus two multi-purpose rooms, a kitchen, a teachers' lounge and office and storage space. With a final enrollment of 257 elementary students in 1977-78, the elementary school averaged only about 13 students per classroom, well within the school's preferred standard of 20-22 students per room. However, each grade has an enrollment which requires that at least two classrooms be provided. Furthermore, the school offers special education and vocational

education classes where a higher degree of individual instruction is needed. As a result, the number of classrooms in use accurately reflects actual classroom requirements.

As elsewhere in Alaska, elementary school enrollments in Cordova have not changed significantly over the past twenty or so years (see Table 46). Final enrollment in the elementary school in 1977-78 was 45 students fewer than in the previous year but was close to that recorded for 1959-60. Since Cordova's total city population more than doubled between 1960 and 1978, it is apparent that here, as elsewhere in the nation, a dramatic decline in birth rates has taken place.

The Mt. Eccles elementary school is a pleasant, well maintained structure. The only major physical alteration to this building since it was first built was the addition of five rooms to the second story in 1963. More recent improvements include a new roof in 1978 and the planned addition of a covered playground area in the summer of 1979. The latter is extremely practical in a community which receives an average of about 254.0 centimeters (100 inches) of rain and 322.6 centimeters (127 inches) of snow annually.

According to the Cordova school superintendent, the Mt. Eccles elementary school plant has a remaining useful life of 30 to 40 years. Thus, no replacement of this facility is presently contemplated although its site is acknowledged to be seriously deficient in area.

TABLE 46

ENROLLMENT TRENDS a/
CORDOVA SCHOOL SYSTEM
1959/60 - 1977/78

School Year	Final Enrollment				Average Daily Membership	
	Grades K - 6		Grades 7 - 12		Total	
	Number	% of Total	Number	% of Total		
1959/60	244	65.4	129	34.6	373	378
1960/61	266	68.4	123	31.6	389	383
1961/62	283	67.4	137	32.6	420	414
1962/63	289	62.6	173	37.4	462	453
1963/64	311	63.2	181	36.8	492	491
1964/65	317	63.9	179	36.1	496	495
1965/66	306	60.7	198	39.3	504	511
1966/67	321	60.8	207	39.2	528	498
1967/68	305	59.1	211	40.1	516	510
1968/69	318	59.2	219	40.8	537	524
1969/70	276	58.5	196	41.5	472	476
1 970/71 a/	319	60.4	209	39.6	528	513
1971/72 a/	298	59.7	201	40.3	499	488
1972/73 a/	294	56.8	224	43.2	518	509
1973/74 a/	301	58.4	214	41.6	515	503
1 974/75	305	56.8	232	43.2	537	525
1975/76	300	54.1	255	45.9	555	551
1976/77	302	54.1	256	45.9	558	533
1977/78	257	52.4	233	47.6	490	490

a/ Special education or ungraded students included in elementary enrollment figures.

Source: Alaska Department of Education, Division of Management and Finance, Statistics Section.

High School Facilities

The Cordova high school is located on a 1.4 hectare (3.4 acre) site off Fisherman Avenue in the southwest portion of town. The main school building contains 11 classrooms including one for special education, plus a small multi-purpose room, a gymnasium, band room, library, audio-visual equipment room, dark lab, nurse's room, facilities for teachers and custodial staff and a complement of office, storage and equipment space. Two modular classrooms were added in 1976 and a second modular unit containing two rooms was assembled in 1977. These modular rooms are used for carpentry, drafting, special education and remedial reading courses. All told, the junior and senior high schools thus occupy 15 classrooms.

With a final enrollment of 233 students in 1977-78, the high school averaged about 16 students per room. This is slightly more than the 12-13 students per room standard preferred by the Cordova school system. However, the planned addition of a two classroom vocational education unit to the main school building next summer for power mechanics/welding and for home economics should serve to make average classroom densities closer to locally preferred levels.

Outdoor recreation activities at the high school are limited by the fact that close to 75 percent of the school site is already covered by buildings or is occupied by parking areas. In addition, the planned construction of a vocational education unit in 1979 will serve to

further lessen the amount of available outdoor recreation space. To some extent, this lack of outdoor play space is offset by the presence of tennis courts and a Little League ball field next to the school. Furthermore, the Bob Kern Municipal Swimming Pool located off Railroad Avenue in the Tidewater Development Park area forms an important part of * the high school recreation program.

Final enrollment in the Cordova high school dropped by 23 students in 1977-78. According to the Cordova superintendent of schools, some further decline has taken place in the school year now underway. Again, such declines are not indicative of any decline in Cordova's total population. Instead, they tend to indicate that at least in this community, the decline in the birth rate which has been experienced nationwide is beginning to make itself felt in high school enrollments.

The Cordova high school is a physically attractive facility although the school site is much smaller than desirable. According to the superintendent of schools, the existing high school plant has a probable useful life of 30 to 40 years and no replacement for this facility is currently being contemplated. However, this was not the case a couple of years ago when construction of an "El Paso" route for the proposed North Slope gas line seemed possible and when the first outer continental shelf oil and gas lease sale in the Northern Gulf of Alaska had just been held. At that time, significant growth in school enrollments appeared likely and a new high school site in the area east of Odiak Lake between Chase Avenue and the Copper River Highway was then being considered.

RECREATION

The provision of a variety of types of recreation facilities is an essential element of good **community** development. In a community like Cordova which normally experiences very heavy rainfall and where the ground is snow covered during the winter months, the provision of indoor recreation facilities is of special importance.

Cordova offers its residents a range of both indoor and outdoor recreation activities available in no other Alaska community of a similar size.

Most activities are sponsored either by the City or by non-profit groups. However, a privately owned 8-lane bowling alley attracts bowling enthusiasts while a number of bars, some with dance spots and live entertainment, serve as popular recreation-related centers. In addition, **Cordova** churches and fraternal organizations such as the Elks, Moose, Pioneers and Masons provide recreation programs for their membership.

Municipal Park, located next to the high school, is a major community recreation area for young children. Facilities here include a playground with swings, slides, jungle gyms and other equipment plus a Little League ball field. People of other age groups are also attracted to this park by the availability of volleyball facilities, two tennis courts and a picnicking area.

A second, smaller playground with swings, slide, jungle gym, merry-go-round and seesaw equipment is located on the west side of Second Street

across from Mt. Eccles elementary school. This playground is heavily used by elementary school students as the school has only a very limited yard area. The elementary school has a fairly small gymnasium and has scheduled the addition of an outdoor covered play area in 1979.

Besides facilities available at Municipal Park, Cordova offers its teenagers a variety of other recreation opportunities. The high school has a good gymnasium and most basketball games in town are played here. Other facilities heavily used by teenagers include the swimming pool, the community gymnasium and the Eyak Youth Services Center.

Cordova's Bob Kern Municipal Swimming Pool has been open since August 1974 and has added a new dimension to Cordova's range of indoor recreation activities. This is an indoor Olympic-size pool located at the corner of Adams and Railroad Avenues. Swimming has become a popular addition to the school recreation program and the pool is also heavily used during non-school hours and the summer months. In addition, beginner and more advanced swimming classes are offered to people of all age groups. The availability of pool facilities and swimming lessons is especially important in a fishing community where many people have not previously had an opportunity to learn to swim.

Except for the old fire hall which is used by the Alaska Department of Fish and Game for storage, the former Cordova City Hall located on the corner of Second Street and Council Avenue is now used for recreation activities. The community gymnasium has long been on the second floor

of this structure but the Eyak Youth Services Center was located in an old building on Council Avenue between Railroad Avenue and First Street until the municipal administration vacated the former City Hall in December 1977.

Recreation activities in the old City Hall are supervised by the Bidarki Corporation, a non-profit organization which operates a comprehensive recreation program with Johnson O'Malley, Law Enforcement Assistance Administration (LEAA), Comprehensive Education and Training Act (CETA), Bureau of Indian Affairs, City and other funds, and which serves as the financial arm of the Eyak Youth Services Center. The community gymnasium is on the second floor and is open for use by people of all ages but is mainly used by teenagers for basketball practice, table tennis and volleyball. However, this facility is also used for roller skating, folk dancing, creative movement classes and other activities and for occasional teenage dances. A weight lifting room is also located on the second floor of the old City Hall.

The former municipal offices on the ground floor of the old City Hall are now used for arts and crafts programs. During the summer of 1978, these programs included kelp box derby building, bead work, kite making, block printing, macrame, soap carving, candle making, paper mache, stationery and place mat making, and other activities.

The top floor of the old City Hall is occupied by the youth center which caters to children between the ages of 10 and 19 and offers both counseling

services and recreation activities. Facilities here include two pool tables, a foosball table, a juke box and a TV lounge. Children can also listen to piped in music or purchase candy, chips, juice and pop from a counter manned by teenage assistants. Equipment for outdoor youth activities such as cross-country skiing, tennis and frisbee throwing is available for loan or rent and the youth center also organizes occasional community-wide events such as the Annual Kelp Box Derby Race, a potluck dinner and open house at the youth center, and Fourth of July activities.

Recreation facilities in Cordova serving general and family recreation needs include Nirvana Park, Eyak Lake and the Tripod ski hill. Nirvana Park is located on the north shore of Eyak Lake and was established in the 1920's by Herman C. Feldman who later willed it to the City of Cordova. At one time, this park featured flowers, walkways and fountains inset with copper ore. Today, however, it is overgrown and little used although an adjacent spit extending into Eyak Lake is popular with recreational boating enthusiasts.

The Tripod ski hill immediately behind the main part of town was developed by the City of Cordova but is now operated by a private firm. The City obtained single chair equipment from Sun Valley, Idaho which was installed over a 975.4 meter (3,200 foot) long course with a 243.8 meter (800 foot) vertical rise. Early problems with snow drifting necessitated the raising of some of the towers. However, the ski hill is now normally open for 50 to 60 days each winter and has proved to be a valuable addition to Cordova's range of outdoor recreation facilities.

The Cordova area offers a variety of informal recreation activities.

Ice skating on Eyak Lake is popular in the winter and the Forest Service has provided a warm-up cabin by the lake for skaters. Picnicking is also popular. The Forest Service maintains several picnic areas near Cordova and there are innumerable informal picnicking spots. In addition, the Cordova area offers excellent hunting and fishing opportunities. In an April 1975 survey undertaken in Cordova by Alaska Consultants, Inc., close to half of the people interviewed indicated that they or a member of their household often hunted and fished and around 85 percent of the households included people who hunted and fished at least sometimes. Hunting and fishing are popular not only with local residents but also attract visitors to the Cordova area. These activities and their impact on the local economy are discussed more fully in the Sector Analysis section of this chapter.

UTILITIES

Water

The availability of a reliable supply of good quality water is essential in any community but is of critical importance in a town like Cordova which has an economy heavily dependent on fishing and fish processing. Cordova presently derives its water supply from three sources. The primary source is the Meals Lake Reservoir located above Whittshed Road where the waters of Heney Creek are impounded and which has a storage capacity of about 136,260 kiloliters (36 million gallons). Other sources

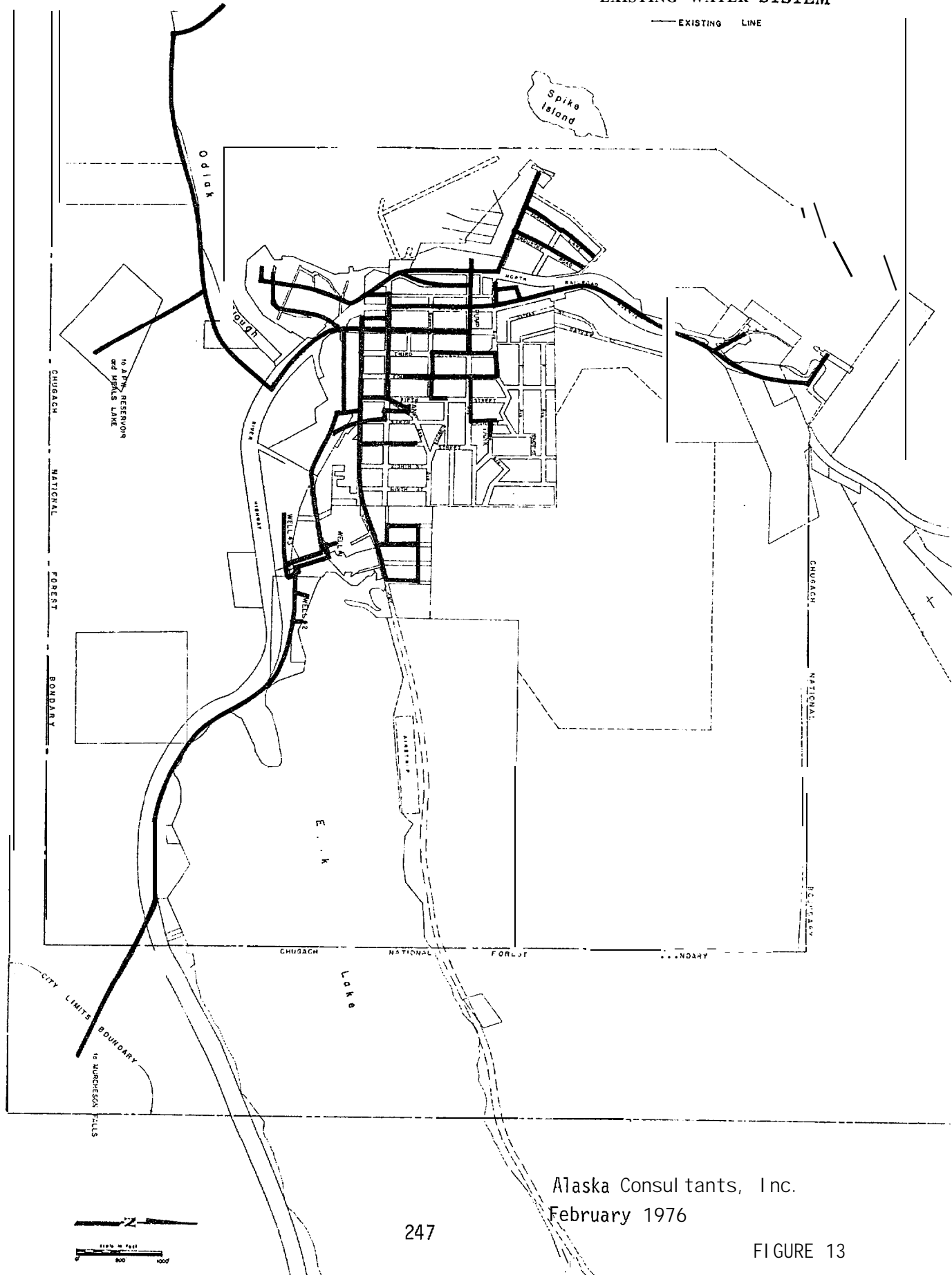
are Murcheson Falls east of town on the south side of Eyak Lake and three wells near the west end of Eyak Lake. In addition, the old Alaska Public Works (APW) Reservoir, lying below Meals Lake, is retained for emergency firefighting purposes only and has a storage capacity of around 52,990 kiloliters (14 million gallons). All water entering the municipal distribution system is chlorinated but it is not filtered.

Almost all areas within Cordova's corporate limits are served by the municipal water system, the responsibility for which will be transferred from the Cordova Public Utilities to the City of Cordova as of September 30, 1978. Water services extend north as far as the ferry dock, out Whitshed Road to the sewage treatment plant, toward the Eyak Lake Airstrip as far as the Vina Young subdivision and out the Copper River Highway to the Murcheson Falls area (see Figure 13). According to City officials, there were approximately 800 hookups to the system as of August 1978. The only major user which is not on the municipal water system is the New England cannery complex north of town which has its own water supply. The airport complex at Mile 13 of the Copper River Highway also has its own system.

Most lines in Cordova's basic water distribution system are 15.2 or 20.3 centimeters (6 or 8 inches) in diameter, with the transmission lines having a diameter of 25.4 or 30.5 centimeters (10 or 12 inches). There are two storage tanks. One located on Fifth Street between Adams and Browning Avenues holds 378.5 kiloliters (100,000 gallons) of water and serves the lower part of town. A pressure booster pump in the basement

CITY OF CORDOVA

EXISTING WATER SYSTEM



Alaska Consultants, Inc.
February 1976

of the old City Hall pumps water into a 227.1 kiloliter (100,000 gallon) tank on Sixth Street between Council Avenue and the ski hill road to serve the upper portions of town.

Improvements to the water system during the past five years include an upgrading of the Meals Lake reservoir and the extension of a 30.5 centimeter (12 inch) line out Whitshed Road to the sewage treatment plant. Additional lines were installed in town on Seventh Street between Lake and Adams Avenues and in the Vina Young subdivision. The City plans to upgrade the line serving fish processors in the Cordova industrial park later in 1978 or early 1979 from a 15.2 to 25.4 centimeter (from a 6 to 10 inch) diameter line. In addition, bids will be let in October 1978 for the extension of water and sewer services to the Whiskey Ridge subdivision out Whitshed Road. According to the City, however, the distribution system is in further need of upgrading to replace remaining wood stave lines and, in some areas, to provide larger mains. Another needed improvement is the replacement of the intake dam in the Heney Creek canyon as the existing facility dates from around 1915.

Cordova has experienced a number of problems with its water system in the past. The most spectacular occurred during the winter of 1971-72 when Murcheson Falls ceased flowing for a longer period than usual. There was no ground water source developed at that time and Heney Creek proved unable to produce enough water to satisfy local demands. As an interim measure, untreated water from Eyak Lake was used and this resulted in a severe outbreak of gastro-enteritis in the community. Subsequent

testing found the lake to be polluted and unsuited for community use without complete treatment.

Another problem has been inadequate water service to the Cordova industrial park, an area where the community's two largest fish processors are located. According to City officials, demands on the system reach around 94.6 liters per second (1,500 gallons per minute) during peak processing periods. At such times, when the valves in this area are opened the water is drawn out of the pipes so fast that there is no pressure. In a community which depends so heavily on fishing and fish processing, inadequate service to processing plants is a major problem and the enlargement of water lines to this area is scheduled later in 1978 or in early 1979.

The demands placed on Cordova's water system have increased significantly since 1970 with the large scale entry into the tanner crab fishery by local processors a major factor. Using Tryck, Nyman and Hayes' (December 1972) findings that Cordova's industrial water requirements were approximately 3.5 times residential demand and applying an average per capita domestic consumption rate for City residents of 473.1 liters (125 gallons) per day, approximately 4,791.8 kiloliters (1,266,000 gallons) per day are presently required to be available to meet peak demands on the system.

Existing water demands have led to problems with line sizes in some areas of town. However, another potential problem arises from the

greatly increased winter demands for water which have accompanied the large scale entry of several Cordova processors into tanner crab processing. Low stream flows are normal during this time of year and, during an especially cold winter, the community could again face water shortages if demands on the system continue to increase. The wells near Eyak Lake were drilled to provide an emergency water source and have not been used during the past two years despite the freezing of the line to Murcheson Falls in 1977, primarily because of exceptionally mild winters. Nevertheless, should another local processor served by the community water system elect to enter into tanner crab processing, Cordova's existing water sources could prove inadequate.

Several alternatives for upgrading Cordova's water supply have been suggested. These include installing a second dam on Heney Creek, running a line out Whitshed Road to Three Mile Bay, utilizing Power Creek as a water source in conjunction with a proposed hydroelectric power project, or using Eyak Lake itself. No action on any of these alternatives has yet been taken.

Sewer

The provision of an adequate sewer system serving all development in a community, plus sewage treatment, is essential to modern urban living. This is particularly true in Cordova where subsurface conditions often limit the effectiveness of septic tanks.

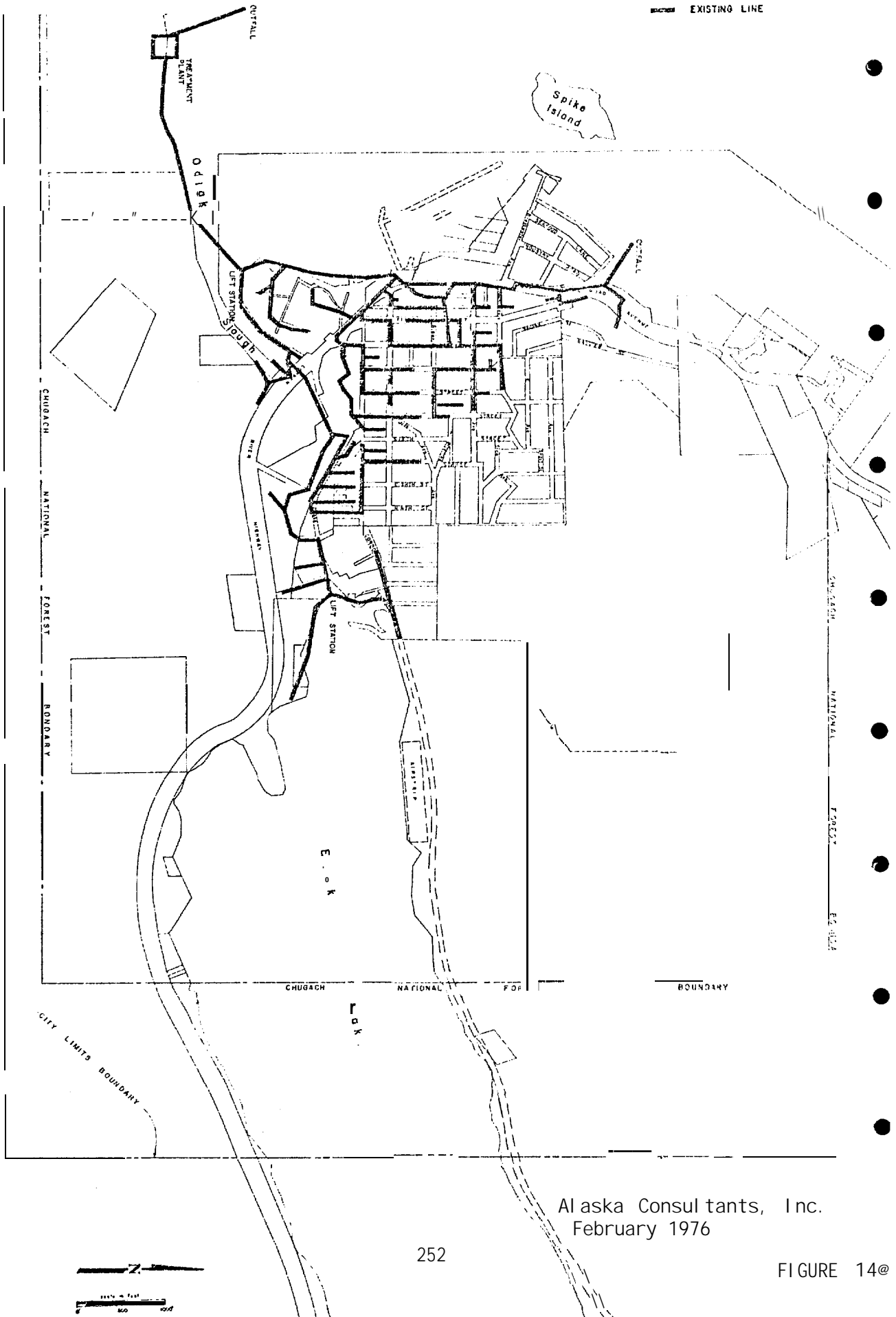
Until recently, Cordova's gravity flow sewer system was seriously inadequate in area coverage and wastes were untreated. However, sewer services were extended into Old Town in 1975 and a sewage treatment plant located off Whitshed Road was completed in August of the same year. Today, the system serves most concentrated residential development in town and extends north out Railroad Avenue a short distance beyond the Cordova industrial park, out Whitshed Road to the sewage treatment plant and east as far as the Vina Young subdivision and the Lake Shore Village trailer court on the south side of Eyak Lake (see Figure 14). According to the City of Cordova, there were about 750 hookups to the municipal sanitary sewer system in August 1978.

Extension of sewer service is scheduled later in 1978 or in 1979 to the Whiskey Ridge subdivision off Whitshed Road and to the Cordova industrial park. In conjunction with the latter, a third lift station will be added to the system and the outfall beyond the industrial park will be abandoned.

Once planned sewer extensions are completed, the only major areas of the community not connected to the system will be the Morpac/Alaska Packers and ferry terminal industrial areas, some housing along Whitshed Road and scattered development along both sides of Eyak Lake. The New England cannery complex is also not connected to the system but is too remote from town for a connection to be feasible through the foreseeable future.

CITY OF CORDOVA

EXISTHUG SEWERSYSTEM



Alaska Consultants, Inc.
February 1976

The Cordova sewer system is not designed to accommodate industrial wastes, nor is it planned that it will do so in the future. However, all major processors in this area maintain large bunkhouse operations. In the absence of a connection to the sewer system, human wastes are either discharged directly into Orca Inlet or a septic tank system is utilized.

Cordova's sewage treatment plant is located off Whitshed Road near the Whiskey Ridge subdivision and provides secondary treatment of non-industrial wastes. One problem associated with the operation of this facility has resulted from water infiltration into the sanitary sewer system. When the plant was first built, very large amounts of water flowed into the sewer system after heavy precipitation and made treatment of wastes difficult. Flows of as much as 7,570 to 11,355 kiloliters (2 to 3 million gallons) per day were measured whereas the plant's flow design capacity was only 2,649.5 kiloliters (700,000 gallons) per day, a capacity which should have otherwise been adequate since average flows were only around 1,324.8 kiloliters (350,000 gallons) per day. Of this, assuming an average per capita input of 473.1 liters (125 gallons) per day, a total of 1,064.5 kiloliters (281,250 gallons) is estimated to be contributed by residential sources in the City of Cordova. Essentially all remaining flows through the plant result from infiltration. Recent efforts involving repairing leaks in the lines and removing a storm sewer which was draining into the sanitary sewer system have done much to correct this problem although some infiltration still occurs.

Cordova has a separate storm sewer system which is made necessary by heavy precipitation and high rates of surface runoff. This system serves most developed areas in the central section of town and empties into the west side of the harbor near the old ferry slip.

Electric Power

Cordova's electric power system has been operated by the Cordova Public Utilities for many years. However, as of September 30, 1978, the sale of the system to the Cordova Electric Cooperative, Inc., an organization eligible to receive Rural Electrification Administration (REA) low interest loans, will become official. Offices for the electric (and telephone) cooperatives will remain in the new City Hall in space leased from the City.

All power in Cordova is diesel-generated. The power plant is located on the Copper River Highway at the west end of Eyak Lake and its buildings currently house four operating diesel units with a combined nameplate generating capacity of 5,950 kilowatts. However, the de-rated (or actual) generating capacity of these units is significantly less, estimated by the power plant operators to be approximately 4,850 kilowatts. (Taking the estimated 1978 total population in the Cordova area, this amounts to **only** about 1.8 kw per capita of actual generating capacity). Two other units in the power plant with nameplate generating capacities of 800 and 1,100 kilowatts respectively are presently not operational. Furthermore, even if reconditioning attempts are successful, these units date from the mid 1930's and have very limited remaining useful lives.

From the Cordova power plant, electric service is provided north to

● Ocean Dock, out Whitshed Road to just past Heney Creek, to Mile 13 of the Copper River Highway and along the north shore of Eyak Lake as far as the Napeł residence. As of August 1978, there were about 900 hook-ups to the system. The only major power user in the immediate Cordova area not connected to the municipal power system is the New England cannery complex at Orca which generates its own power requirements. ● However, at least one other fish processor has its own standby generating capacity.

● According to the Cordova Public Utilities, firm power requirements in Cordova currently average between 2,300 and 2,500 kilowatts, with peak demands on the system running around 3,300 kilowatts. Since the peak power capacity of the four operating generators (de-rated generating capacity minus that of the largest unit) is less than peak power demands, ● Cordova's existing system is inadequate to reliably meet total community needs. To correct this situation, the Cordova Public Utilities took ● delivery of a new 2,500 kilowatt generating unit in early August 1978. This unit is now housed in the power house but will not be running until ● about the end of 1978. Taking the current estimated total population for the Cordova road-connected area, the new generator will increase the installed "actual" generating capacity of the system to a much healthier ● 2.7 kw per capita.

● Diesel power has a major disadvantage compared with other systems because of its high operating costs. These costs have accelerated with the

dramatic rise in oil prices during the past few years and have, in turn, been passed on to consumers. For example, a typical residential household will consume somewhere around 800 to 1,000 kilowatt-hours per month, excluding heat. As of September 1978, this would cost between \$104.50 and \$126.50 in Cordova. By contrast, in Anchorage where natural gas is the primary power source, the same amount of residential power furnished by the Municipality costs between \$25.68 and \$31.26 (including a \$3.36 minimum monthly charge) or, about one-quarter that paid by Cordova residents. The Anchorage system has obvious economies of scale not enjoyed by that of Cordova. Nevertheless, the difference in the source of power is a significant factor in the wide disparity in power costs.

According to Cordova Public Utilities, power consumption in Cordova has recently been increasing at an average rate of about 14 percent per year due largely to increased industrial demands being placed on the system. This has required the addition of three diesel generators since 1970 (including the new unit currently being installed). Purchase of a new 2,650 kilowatt generating unit is planned within the next two years and, possibly, also a 3,500 kilowatt unit. Acquisition of the latter unit within this time frame, however, is contingent on Coast Guard plans for its proposed helicopter air station at Mile 13 and whether or not the New England cannery complex elects to be connected to the community power system.

The Cordova Electric Cooperative plans to expend in the order of \$7.5 million over the next two years to upgrade Cordova's electric power

system. Aside from the purchase of additional generating units, these funds will be used to extend service to new customers, to upgrade the existing distribution system, improvements to the general plant such as the replacement of transformers and vehicles, paying off outstanding bonds and to conduct studies of the proposed Power Creek hydroelectric power site. Also planned is the relocation of the power plant to a site away from Eyak Lake and residential areas. Although a new site has not yet been selected, one located where waste heat loads could be utilized is preferred.

The addition of diesel generators every few years is expensive and the operators of Cordova's power system have long been interested in developing alternate sources. The most promising of these, at least in the short term, appears to be the possibility of developing a hydroelectric project on Power Creek, a stream which drains into Eyak Lake about 8 kilometers (5 miles) northeast of town. According to a report by Marks Engineering (1977), recent studies have indicated that a 10,000 kilowatt run of river hydroelectric plant at Power Creek could be constructed with favorable economics although only a 5,000 kilowatt run is initially contemplated. However, the feasibility of this project is still subject to further study.

Solid Waste Disposal

The City of Cordova assumed responsibility for garbage collection and disposal in 1965 although it has periodically contracted the service

out. Since December 1977, garbage collection has been handled by Cordova Disposal, a subsidiary of Anchorage Refuse, Inc. Pick-up is scheduled twice a week to residences and six days per week for businesses.

The Cordova sanitary landfill is located off Whitshed Road facing onto Odiak Slough. The old dump was recently closed and covered with a couple of feet of rock fill. This site is planned to be converted for use as a camper park and extension of water and sewer service here is scheduled later in 1978. However, the City of Cordova received a three year permit from the Alaska Department of Environmental Conservation to extend the old dump. The new landfill site is located below and beyond the old facility and will be filled during the next two years.

The need for a new dump site to serve Cordova has been postponed, not averted. Good dump sites are few and far between in this area. Although potential sites near the Mile 13 airport have been identified, resulting increases in the length of haul would undoubtedly increase the cost of pick-up since either additional vehicles or more sophisticated vehicles would be required.

Communications

Ownership of Cordova's telephone system will be transferred from the Cordova Public Utilities to the recently established Cordova Telephone Cooperative, Inc. (CTC) as of September 30, 1978. Like the newly established electric cooperative, the CTC will be eligible to receive low interest REA loans.

Telephone service is currently provided throughout the Cordova road-connected area as far as Mile 13 of the Copper River Highway, north to the New England cannery complex, out Whitshed Road to just past Heney Creek and out along the north shore of Eyak Lake to the Napeł residence. Cordova's exchange operates on a common control crossbar switching system and is located on Main Street behind the old Cordova Public Utilities building. However, office personnel occupy space rented from the City of Cordova in the new City Hall.

The Cordova telephone exchange was installed in 1976 and is geared to serve 1,200 customers but its capacity can be fairly easily expanded. As of August 1978, there were about 775 hook-ups to the telephone system. Using a figure of 640 dwelling units (excluding group housing) in the Cordova road-connected area, Cordova currently has about 1.2 telephones per dwelling unit. A total of 1,199 customers has been projected by the system operators within the next five years. It should be noted, however, that this increase assumes the establishment during this period of a helicopter air station at Mile 13.

The CTC plans to undertake an ambitious \$2.5 million program during the next five years to upgrade the Cordova telephone system. Included in this program is central office switching equipment which the system manager believes will be affordable within five years. Also included are wiring improvements and extension of service, where necessary. For example, the CTC is considering running a major cable to Mile 13 to serve projected growth in that area and is also looking to serve Boswell Bay on Hinchinbrook Island.

Cordova has a cable TV station which operates out of the Reluctant Fisherman Motel. A radio station is located on the point near the high school and Cordova residents are also able to receive radio signals from other communities. Finally, Cordova has a weekly newspaper, with the local publisher also putting out the Valdez paper.

Local Government Organization

Cordova *was* incorporated as a city on July 8, 1909. Today, it is classified as a home rule city under Alaska law and has a council-manager form of government where the manager directs the day to day operations of the city with policy direction from the mayor and the council. The council consists of six councilmen and a mayor elected at large.

CITY POWERS

As a home city under Alaska law which is not within an organized borough, Cordova has all legislative powers not prohibited by law or charter.

The City of Cordova has assumed a wide range of powers as provided for in Chapter 48 of Title 29 of the Alaska Statutes. It has assumed responsibility for the operation of most public facilities and services listed in AS 29.48.030, plus those required to be assumed by cities outside organized boroughs as per Chapter 43 of Title 29 (Alaska Statutes). However, garbage collection services are presently contracted to a

private firm, the community's two airports are operated and maintained by the State and there is no local public transportation system.

Furthermore, as of September 30, 1978, ownership and management of Cordova's electric power and telephone systems were transferred to cooperative organizations which are eligible to receive low interest loans from the U.S. Rural Electrification Administration (REA).

LOCAL GOVERNMENT FINANCES

Cordova's most recent audit was reviewed, as were operating revenue sources for the Cordova school system. In addition, data developed by the State Assessor on the subjects of property valuation, local tax rates and per capita debt were analyzed.

A review of the full value of property within Cordova's corporate limits as determined by the State Assessor (Alaska Taxable) from 1969 through 1977 (see Table 47) was undertaken. According to the State Assessor's records, the full value of property at Cordova increased by about 268 percent between 1969 and 1977. During the early 1970's, very little increase in property valuation took place in Cordova other than that which could be accounted for by inflation. However, the addition of a cold storage plant, a major motel and the substantial upgrading of processing plant facilities have contributed to greater rates of increase after 1972.

TABLE 47
CITY OF CORDOVA
COMPARISON OF FULL VALUE DETERMINATION
1969-1977

(in \$000's to nearest \$1,000)

<u>Year</u>	<u>Full Value Determination</u>
1969	\$8,989
1970	\$9,583
1971	\$10,694
1972	\$11,266
1973	\$18,082
1974	\$21,294
1975	\$25,848
1976	\$31,146
1977	\$33,048

Source: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

Under Alaska law, first class and home rule municipalities may levy property taxes of up to 30 mills although this millage rate may be exceeded if it is applied to debt service. In addition, both first and second class municipalities may levy sales taxes of up to 3 percent, while there is no limitation placed on sales tax levies by home rule municipalities. (Communities within organized boroughs may also have higher sales tax rates if overlapping units of government both levy sales taxes).

A review of property millage and sales tax rates at Cordova since the 1972/73 fiscal year (see Table 48) indicates that local residents pay among the highest local government taxes in the State. Property tax rates have remained generally stable here during the past six years, between 17 and 18 mills, except in 1977/78 when the mill levy was raised to 22 mills. The use of these property taxes has changed, however, with those reserved for school support dropping from 10 to 8.33 mills during the 1972/73 to 1977/78 period while those for municipal administration rose from 8 mills in 1972/73 to 13.67 mills in 1977/78. Compared with other local government units in Alaska, property tax rates in Cordova are very high. In fact, the only community in the State where residents paid higher property taxes in 1977 was Seward which had a combined Borough/City mill levy of 23 mills.

Not only do Cordova residents pay extremely high property taxes but they also pay high sales taxes. The City has maintained a constant 4 percent local sales tax during the past six years. Of this, 1 percent is earmarked for school support and 3 percent for municipal administration.

TABLE 48

CITY OF CORDOVA
PROPERTY AND SALES TAX RATES
1972/73 - 1977/78

	Property Tax (mills)					
	1972/73	1 973/74	1 974/75	1975/76	1976/77	1977/78.
Admi ni strati on	8.00	8.0.0	7.50	9.00	10.00	13.67
School S	<u>10.00</u>	<u>10.00</u>	<u>9.50</u>	<u>8.00</u>	<u>8.50</u>	<u>8.33</u>
<u>TOTAL</u>	<u>18.00</u>	<u>18.00</u>	<u>17.00</u>	<u>17.00</u>	<u>18.50</u>	<u>22.00</u>
	Sales Tax (percent)					
	1972/73	1 973/74	1974/75	1975/76	1976/77	1977/78
Admi ni strati on	3.00	3.00	3.00	3.00	3.00	3.00
School S	<u>1.00</u>	<u>1.00</u>	<u>1.00</u>	<u>1.00</u>	<u>1.00</u>	<u>1.00</u>
<u>TOTAL</u>	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>	<u>4.00</u>

Source: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

An analysis of Cordova's general fund revenues and expenditures for the fiscal year ended June 30, 1977 was also undertaken (see Table 49). A high proportion of Cordova's general fund revenues is derived from local sources. Including transfers from other funds, total general fund revenues in FY 1977 amounted to \$1,432,722. Intergovernmental revenues accounted for slightly over one-third (35.9 percent) of the total, followed by taxes, penalties and interest (25 percent), transfers from other funds (23.3 percent) and other revenues (15 percent) plus a minor amount (.7 percent) derived from licenses and permits.

A share of intergovernmental revenues, such as raw fish taxes, business license refunds and liquor license refunds can be said to be locally generated revenue. However, excluding these revenues, almost two-thirds of Cordova's general fund revenues in FY 1977 were locally collected. This includes all taxes, penalties and interest, all licenses and permits, all transfers from other funds (sales tax fund and public works fund, the latter derived from trailer sales and rentals and street paving assessments) and all "other" revenues (those derived from the sale or lease of City land and equipment and miscellaneous other sources).

While general government revenues are supported primarily by locally generated funds, this is not the case with the Cordova school district. According to figures supplied by the Alaska Department of Education (see Table 50), approximately 87 percent of total operating revenue sources for the Cordova school system in FY 1977 came from State sources, compared with 11 percent from local revenues. This level of State support is not

TABLE 49

GENERAL FUND
STATEMENT OF REVENUES, EXPENDITURES, TRANSFERS
AND CHANGES IN FUND BALANCE
CITY OF CORDOVA
FOR THE YEAR ENDED JUNE 30, 1977

	<u>Revised Budget</u>	<u>Actual</u>	<u>Over (Under) Budget'</u>
<u>Revenues</u>			
Taxes, penalties and interest	\$ 358,468	\$ 358,737	\$ 289
Licenses and permits	5,000	9,993	4,993
Intergovernmental revenue	431,568	514,290	82,722
Other revenues	197,245	215,187	17,942
Total revenues	\$ 992,281	\$1,098,227	\$105,946
Transfers from other funds	345,321	334,495	(10,826)
<u>TOTAL REVENUES AND TRANSFERS</u>	<u>\$1,337,602</u>	<u>\$1,432,722</u>	<u>\$95,120</u>
<u>Expenditures</u>			
General government	\$ 291,393	\$ 241,997	\$(49,396)
Health and safety	402,885	414,201	11,316
Recreation and school	303,240	315,362	12,122
Public works	397,123	350,971	(46,152)
Capital improvements	60,025	50,616	(9,409)
Miscellaneous	3,500	21,152	17,652
Total expenditures	\$1,458,166	\$1,394,299	\$(63,867)
Transfers to other funds	17,702	78,437	60,735
<u>TOTAL EXPENDITURES AND TRANSFERS</u>	<u>\$1,475,868</u>	<u>\$1,472,736</u>	<u>\$ (3,132)</u>
EXCESS (DEFICIENCY) OF REVENUES AND TRANSFERS OVER EXPENDITURES AND TRANSFERS	<u>\$ (138,266)</u>	<u>\$ (40,014)</u>	<u>\$98,252</u>
Fund balance, July 1, 1976		\$ 200,754	
Less:			
Restrict unexpended Federal Revenue Sharing Funds		37,355	
Fund balance, June 30, 1977 - unappropriated		\$ 123,385	

Source: Arthur Young and Company. 1977. City of Cordova, Financial Statements, Year Ended June 30, 1977 with Report of Certified Public Accountants. Anchorage.

TABLE 50

OPERATING REVENUE SOURCES
CORDOVA SCHOOL SYSTEM
FY 1976 AND FY 1977

<u>Year</u>	<u>Local</u>		<u>State</u>		<u>Federal</u>		<u>Other</u>		<u>Total</u>
	dollars	%	dollars	%	dollars	%	dollars	%	dollars
1975-76	\$139,394	9.4	\$1,323,394	89.7	\$11,476	0.8	\$1,735	0.1	\$1,478,999
1976-77	\$ 77,939	11.0	\$1,406,899	87.2	\$20,783	1.3	\$8,500	0.5	\$1,614,211

Source: Alaska Department of Education. 1977. Education in Alaska 1976-1977, Report to the People. Juneau.

atypical of Alaska school districts. State law specifies that State aid under the foundation program shall constitute at least 97 percent of a local school district's "basic need". However, basic need is derived from a State formula for minimum educational requirements and, in practice, most Alaska school districts expend a higher proportion of locally generated funds for basic school support. In addition, many school districts receive federal revenues under P.L. 874, depending on the number of children whose parents live or work on federal property, although this is only a minor source of revenue in Cordova.

A look at Cordova's general fund expenditures for the year ended June 30, 1977 indicates that the greatest areas of expenditure were in the categories of health and safety, public works, recreation and school , and general government respectively. By far the largest area of expenditure in the health and safety category was for police where a total of \$263,424 was expended in FY 1977. Expenditures in the public works area were distributed among a range of items. However, significant increases in expenditures in this area can be expected in FY 1979 with the transfer of Cordova's water utility from the former Cordova Public Utilities to the City effective September 30, 1978. The Cordova schools were the major category of expenditures for the recreation and school category in 1977, followed by the ski hill and the library. Since FY 1977, expenditures for the ski hill have probably declined as the operation of this facility is now contracted out to a private firm.

A review of Cordova's overall financial condition indicates that the City's financial position is basically sound. However, in order to maintain this position, Cordova has had to resort to levying extremely high property and sales taxes. According to the State Assessor's records (see Table 51), this community's \$13,735 per capita property valuation is somewhat below that of other Alaska cities of a similar size (for example, Petersburg's was \$16,015 in 1977), and the local taxation burden to provide a comparable range of local government services is therefore greater.

Despite the high local taxes paid by Cordova residents, the community's bonded indebtedness is well within acceptable ranges. As of June 30, 1977, Cordova had an outstanding general obligation bonded indebtedness of \$1,169,200, accounting for a per capita debt of \$486 or 3.54 percent of total property valuation. This level of per capita debt is well below the \$795 average for Alaska cities in 1977 and is within the guidelines used by Moody's Investors Services. For a schedule of debt service requirements for Cordova's general bonded debt, see Table 52.

In addition to outstanding general obligation bonds, Cordova had a total of \$998,000 in revenue bonds outstanding as of June 30, 1977. While these are a long term financial obligation to the City, they are not classed as a debt since their repayment is theoretically covered by incoming revenues.

TABLE 51 . . .

INDICATORS OF FINANCIAL CONDITION a/
CITY OF CORDOVA, ALASKA
1977

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Population <u>b/</u>	2,406	
Full Value Determination	\$33,047,580	
Full Value Per Capita	\$ 13,735	
General Obligation Debt	\$1,169,200	
Total Debt <u>c/</u>	\$1,169,200	
Per Capita Debt		
General Obligation	\$ 486	
Total	\$ 486	
Debt as Percent of Full Value		
General Obligation		3.54%
Total		3.54%

Guidelines for Per Capita Debt

Direct	\$ 618.48	
Overall	\$ 733.93	
Percent of Full Value <u>d/</u>		5.50%

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- a/ All fiscal data for Cordova current as of 7/1/77.
b/ Population estimate as of 7/1/77 accepted by the Alaska Department of Community and Regional Affairs for municipal revenue sharing purposes.
c/ Total debt excludes \$998,000 in Revenue Bonds outstanding as of 7/1/77.
d/ Median value for selected places of under 10,000 population used by Moody's Investors Services, Inc.

Sources: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

Arthur Young & Company. August 5, 1977. City of Cordova, Financial Statements, Year Ended June 30, 1977 With Report of Certified Public Accountants. Anchorage.

Alaska Consultants, Inc. September 1978. City of Yakutat Capital Improvements and Services Program. Anchorage.

TABLE 52

CITY OF CORDOVA
GENERAL BONDED DEBT
SCHEDULE OF FUTURE DEBT SERVICE REQUIREMENTS
JUNE 30, 1977

<u>Fiscal Year</u>	<u>Principal</u>	<u>Sinking Fund</u>	<u>Interest</u>	<u>Total Requirements</u>
1978	\$ 77,000	\$ 6,200	\$66,490	\$ 149,690
1979	77,000	6,200	62,080	145,280
1980	88,000	6,200	57,520	151,720
1981	89,000	6,200	52,467	147,667
1982	94,000	6,200	47,223	147,423
1983	100,000	6,200	41,827	148,027
1984	106,000	6,200	35,940	148,140
1985	111,000	6,200	29,710	146,910
1986	117,000	25,600 <u>a/</u>	23,543	166,143
1987	122,000	---	10,750	132,750
1988	63,000	---	5,758	68,758
989	19,000	---	2,338	21,338
990	20,000	---	1,530	21,530
991	11,000	---	680	11,680
	<u>\$1,094,000</u>	<u>\$75,200</u>	<u>\$437,856</u>	<u>\$1,607,056</u>
Sinking Fund Deposits	<u>---</u>	<u>24,800</u>		
Total Bonds Payable	<u>\$1,094,000</u>	<u>\$100,000</u>		

a/ Payment required only to the extent that prior Sinking Fund deposits are not sufficient to retire all bonds.

Source: Arthur Young & Company, August 5, 1977. City of Cordova, Financial Statements, Year Ended June 30, 1977 With Report of Certified Public Accountants. Anchorage.

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CITY OF SEWARD

Population and Economy

POPULATION

Past Trends

Seward was founded in 1903 by a group proposing to construct a railroad to transport minerals from the Interior to tidewater at Resurrection Bay. The railroad to Fairbanks was completed in 1923 by the U.S. government and Seward subsequently enjoyed steady growth as the premier port serving Railbelt communities in Southcentral and Interior Alaska. According to the 1950 Census, Seward had a population of 2,114 (see Table 53) while the larger Seward census division's population was 2,708 (see Table 54).

During the 1950's, innovations in cargo handling techniques radically reduced the manpower needed to move cargo from ship to shore in Seward. This, combined with increased usage of port facilities at Whittier by the Alaska Railroad drastically reduced employment on the Seward dock, historically the community's largest employer. However, the effects of this reduction on Seward's economy were mitigated during the early and mid-50's by a series of major construction projects which kept local employment at a high level. These included the Seward to Anchorage highway, the post office, the high school and general hospital, the National Guard Armory and a major railroad rehabilitation program.

TABLE 53

POPULATION TRENDS
SEWARD, ALASKA
1950 - 1978

<u>Year</u>	<u>Population</u>	<u>Percent Change</u>
1950	2,114	
1960	1,891	- 10.6
1970	1,587	- 16.1
1978 <u>a/</u>	1,956	23.3

a/ A 1978 count of Seward's population by the U.S. Census Bureau found 1,756 persons living in the City. However, according to Kenai Peninsula Borough Planning Department staff, another 200 persons should be counted as City residents to reflect enrollment at the Seward Skill Center. Counts by the U.S. Census Bureau and the Kenai Peninsula Borough in the area outside town were taken into account in estimating the population of the Seward fringe area at 644 for a total urban area population of 2,600.

Sources: U.S. Department of Commerce, Bureau of the Census. 1971. Number of Inhabitants, Alaska. Washington, D.C. Final Report PC(1)-A3.

U.S. Department of Commerce, Bureau of the Census. 1960. Number of Inhabitants, Alaska. Washington, D.C. Final Report PC(1)-3A.

Kenai Peninsula Borough Planning Department. Verbal communication.

TABLE 54

POPULATION TRENDS
SEWARD CENSUS DIVISION a/
1950-1977

<u>Year</u>	<u>Popul ati on</u>	<u>Percent Change</u>
1950	2, 708	
1960	2, 956	9. 5
1970	2, 336	-21. 0
1977 <u>b/</u>	3, 392	45. 2

a/ Includes Cooper Landing, Hope, Moose Pass and Seward.

b/ According to the Alaska Department of Labor, Employment Security Division's most recent estimate (1977), the Seward census division had a total population of 3,392. If the estimated 1978 Seward urban area population of 2,600 is excluded, about 792 people in the division live along the Seward Highway, portions of the Sterling Highway or in small communities such as Hope, Moose Pass and Cooper Landing.

Sources: U.S. Department of Commerce, Bureau of the Census. 1971.
Number of Inhabitants, Alaska. Washington, D.C. Final
Report PC(1)-A3.

U.S. Department of Commerce, Bureau of the Census. 1960.
Number of Inhabitants, Alaska. Washington, D.C. Final
Report PC(1)-3A.

Alaska Department of Labor, Employment Security Division.
Verbal communication.

At about the same time these construction projects were completed, the State's declining tuberculosis rate resulted in the closure of a 150 bed sanitarium at Seward. Employment decreased rapidly and the community suffered a critical local recession. According to the Alaska State Housing Authority (1959), Seward's population reached a high of 3,200 in 1957 but fell off rapidly thereafter to about 1,800 in 1958. The 1960 Census counted 1,891 Seward residents, representing a 10.6 percent decline since 1950 but, assuming ASHA's estimate of peak population to be accurate, slightly more than a 40 percent decline had taken place since 1957.

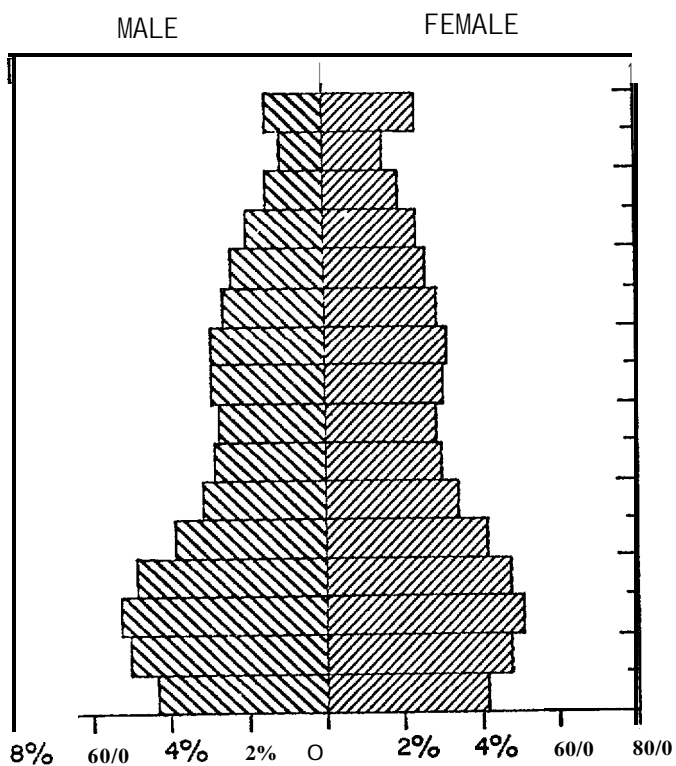
The 1964 earthquake had a further depressing effect on Seward's population and economy. As a result of the disaster, 90 percent of the City's industry, including its docks, fishing boats, railway yards, warehouses, fish processing plants and oil tank farms, were destroyed by submarine landslides, seismic waves and fire. While most public facilities were quickly replaced, the City's basic industries were not rebuilt at pre-earthquake levels. With the port of Seward inoperative for two years, alternative shipping routes were established, primarily to Anchorage but also to Whittier, further reducing Seward's importance as a port. The Jesse Lee Home was moved to Anchorage, a barite plant and a seafood processing plant were not rebuilt and oil tank farm facilities were rebuilt on a smaller scale. These major losses in basic employment had a depressing effect on secondary employment and population. The 1970 Census counted 1,587 Seward residents, a decline of 16.1 percent since 1960 and of 24.9 percent since 1950.

Since 1970, Seward's population has increased. A special census of the Kenai Peninsula Borough undertaken by the U.S. Census Bureau during the summer of 1978 counted 1,756 Seward residents, a 10.6 percent increase over the 1970 figure. However, according to the Kenai Peninsula Borough Planning Department, another 200 persons should be counted as City residents to reflect enrollment at the Seward Skill Center. When these people are included, Seward had a 1978 population of 1,956, an increase of 23.3 percent since 1970.

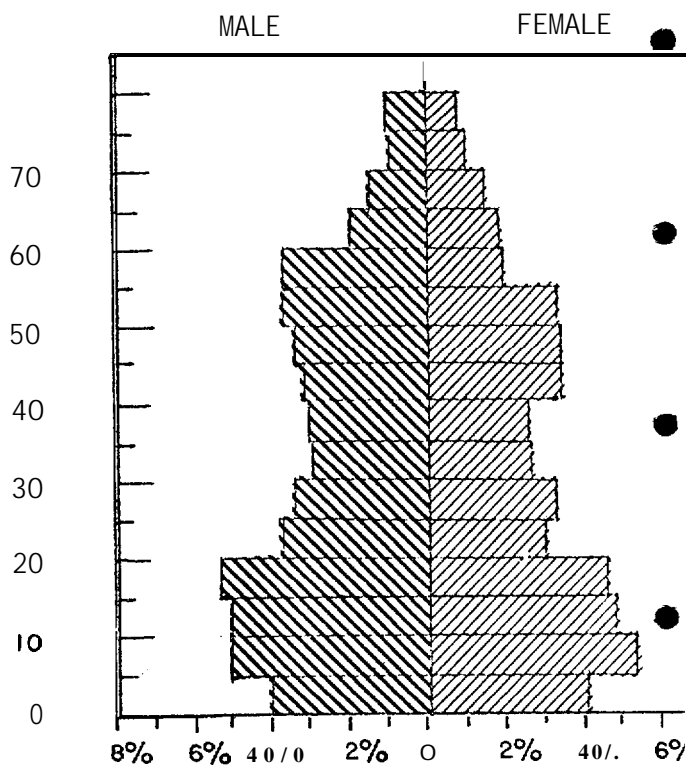
Population Composition

Seward's population composition displays some peculiarly Alaskan characteristics, but in many respects it is closer to national norms (see Figure 15). By Alaska standards Seward's very young age groups were under-represented in 1970 and the community had a high proportion of older people.

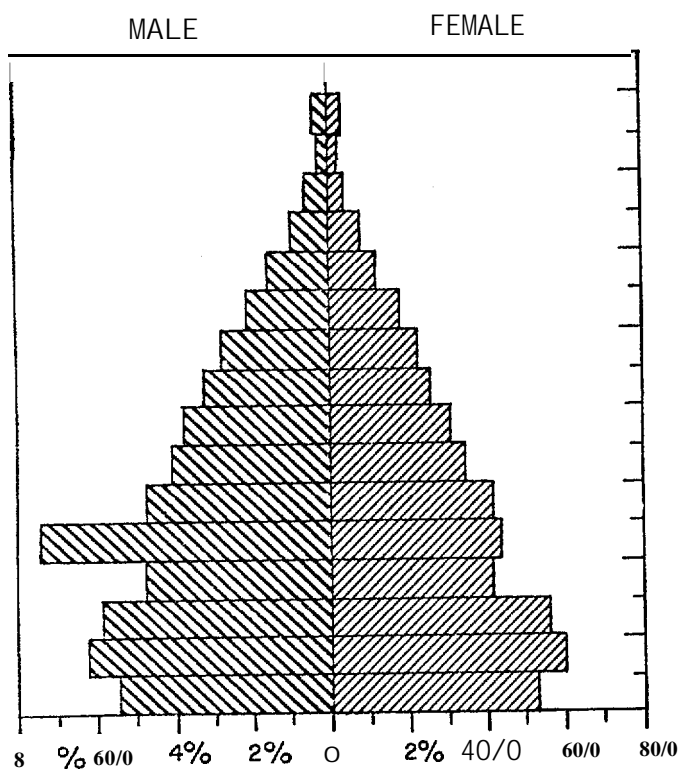
Seward's male to female ratio was slightly less out of balance than that of the State in 1970. According to the 1970 Census, males in Seward outnumbered females by 52 to 48 percent compared with a 54 to 46 percent ratio Statewide. Both Seward and the State were unlike the nation as a whole where females outnumbered males by 49 to 51 percent. An August 1976 survey of the Seward urban area by the University of Alaska's Urban Observatory, however, found that the ratio of males (47 percent) to females (47 percent) had undergone a fundamental change. Seward was the only community surveyed on the Kenai Peninsula where females outnumbered males.



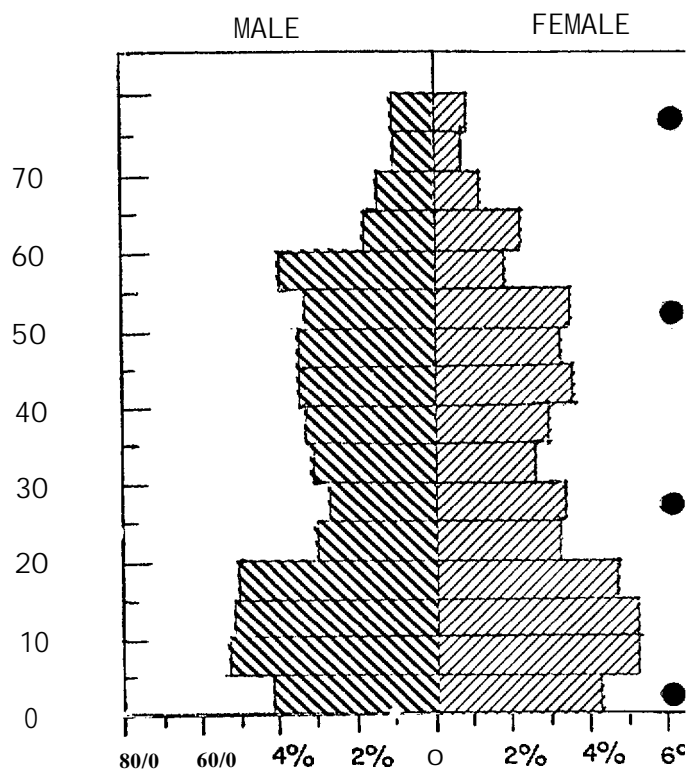
UNITED STATES



SEWARD CENSUS DIVISION



ALASKA



SEWARD

COMPOSITION OF POPULATION

Compared with the State, Seward had a low proportion of very young people in 1970. While 11 percent of the State's population was under 5 years of age, this was true of only 8.4 percent of the City's population, the same as for the nation as a whole. Seward also had relatively few males in the 20 to 24 age range (3 percent). Although the proportion of the State's 1970 population in this age range (7.5 percent) was distorted by a heavy military presence, the small size of the young adult and young children age groups in Seward in 1970 suggests that a significant number of young adults and their families had left the City in search of better employment opportunities.

Another distinguishing feature of Seward's population composition is the high proportion of older people. Persons aged 40 or more accounted for almost 37 percent of the City's population in 1970, slightly higher than the 36 percent recorded for the nation as a whole and much higher than that for the State (22 percent). Fully 6.6 percent of the City's residents in 1970 were aged 65 or older, lower than the national norm (9.8 percent) but again well above the State average (2.2 percent). The Anchorage Urban Observatory found about 32 percent of Seward's population was 40 or older in 1976, indicating that some in-migration of younger people into this community has taken place since 1970.

Reflecting its high proportion of older people, the median age of persons in Seward in 1970 was 29.1 years. This is considerably higher than the 1970 Statewide median (22.9) years and slightly higher than that for the nation (28.3). The median age of Seward males in 1970 was

TABLE 55
COMPOSITION OF POPULATION BY RACE AND SEX
SEWARD, ALASKA
1970

<u>Race</u>	<u>Sex</u>		<u>Total</u>	<u>Percent of Total</u>
	<u>Male</u>	<u>Female</u>		
White	706	660	1,366	86.1
Negro	2	1	3	0.2
Indian	26	19	45	2.8
Alut	44	36	80	5.0
Eskimo	41	36	77	4.9
Other	7	9	16	1.0
<u>TOTAL</u>	826	761	<u>1,587</u>	<u>100.0</u>

Source: University of Alaska, Institute of Social, Economic and Government Research. September 1973. Age and Race by Sex Characteristics of Alaska's Village Population. College. (Alaska Review of Business and Economic Conditions. Vol. X, No. 2.)

30.2, higher than in the country as a whole (28.6) and well above the State (23.3). The median age of Seward females (27.9) in 1970, on the other hand, was below that of the nation (29.3) but again well above the Statewide figure (22.2).

Seward's population is predominantly made up of whites who accounted for slightly more than 86 percent of the City's population in 1970 (see Table 55). Most of the remainder were Alaska Natives (12.7 percent). The Anchorage Urban Observatory found a slightly higher proportion of whites (90 percent) in the Seward urban area in 1976 but Alaska Natives were still a significant minority (9.9 percent). The largest Alaska Native group identified in 1976 was Indian whereas the community had more persons who considered themselves to be Aleut and Eskimo in 1970. However, it is assumed that these apparent changes are primarily due to periodic differences in the ethnic composition of Skill Center enrollment and Wesleyan Nursing Home patients.

Growth Prospects

Prospects for future population growth in the Seward area appear fairly modest in the short term but longer term economic prospects seem good. Since the late 1950's, Seward's economy which was traditionally heavily based in transportation activities has been undergoing a period of adjustment and change. Today, Anchorage and Whittier are the premier ports for Southcentral Alaska. Seward now has a more diversified economy based primarily in a combination of fish and fish processing, tourism,

wood products and institutional activities in the form of the Seward Skill Center, the Wesleyan Nursing Home and the University of Alaska's Institute of Marine Science. In the process of adjusting to this economic change, Seward's population declined **through** about 1970 but has recently experienced a significant amount of **growth**.

Seward currently has one major seafood processor which produces a variety of seafood products. The plant operators indicated to Alaska Consultants, Inc. that they considered expansion **into bottomfishing** to be a possibility within the next several years. Seward is well located for this type of fisheries development which, if successfully established, would certainly contribute to local economic and population growth. However, it appears more likely that **bottomfishing** operations would first become established in Kodiak or the Aleutians.

Tourism has greatly expanded in Seward during the past ten years as the community has become a popular center for recreational boating activities with residents of the metropolitan Anchorage area. These activities should continue to increase along with the **growth** of the Anchorage area population. Additional increases in tourism at Seward will also be realized if a proposed Kenai Fjords National Park is established as the community would function as a gateway to this proposed facility. Finally some increases in tourism at Seward can be expected to accompany the growing number of tourists traveling to and from the community to take the State ferry, the M/V Tustumena, to Prince William Sound, Lower Cook Inlet and Kodiak Island.

Wood products has long been an element in Seward's economy. However, this sector presently offers only very limited opportunities for economic growth. In the longer term, increases may be realized with a higher utilization of the region's timber resources. Finally, although institutional activities have added a much needed element of stability to Seward's economy, no major expansion of these facilities is currently foreseen.

Another potential source of economic growth for Seward involves the servicing of offshore oil and gas exploration and development activities in the Gulf of Alaska. Seward was used to service drilling rigs in the northern Gulf of Alaska following the first outer continental shelf oil and gas lease sale in that area and is likely to fill the same function for future sales in both the northern and western Gulf.

ECONOMY

Seward's economy is based in fisheries, tourism and institutional activities plus, to a lesser extent, wood products. These activities are called "basic" or exogenous as they are export industries whose fortunes are determined by forces outside the local area and are the foundation upon which "secondary" or **endogenous** industries, those whose fortunes are determined by local forces, rest. Thus, gains in basic industry are essential for long term community growth.

Composition of Employment

A review of employment in Seward was conducted by Alaska Consultants, Inc. in August 1978. This was felt to be desirable as the most recent employment data for the Seward division published by the Employment Security Division of the Alaska Department of Labor is now two years old and certain elements of Seward's economy have changed since that time.

*

Employment in two of Seward's major basic activities, fishing and fish processing and tourism, tends to be highly seasonal. Many people who work in these industries live in Seward for only part of the year.

(Many fishermen are residents of Kodiak or the State of Washington and a large share of cannery workers and tourist-related employees come either from out of State or from other Alaska communities such as Anchorage and return there during the off-season). In addition, others who live here year-round may engage in other occupations in the community during the off-season. To minimize the amount of duplication and to reduce the distortion in total employment caused by transient and part-time workers, Alaska Consultants attempted to estimate annual average full-time employment in all sectors of Seward's economy. Except for fishermen, this was done by asking each employer to indicate if, when and how many seasonal workers were added to normal employee loads.

To determine the annual average employment in fishing in Seward, estimates were requested from a number of sources including local Alaska Department of Fish and Game personnel, the community's major seafood processor and

the Seward harbor master. This method was necessary as Seward is included within the Lower Cook Inlet fisheries area and gear registration data available for the larger area are not indicative of the number of fishermen operating out of Seward.

Overall, basic employment was estimated to account for around 60 percent of the average annual full-time employment in the immediate Seward area in 1978. Seward's basic to secondary employment ratio of about 1:1.7 is below national norms where ratios in the neighborhood of 1.0:1.5 are considered average. However, except for Anchorage, Alaska communities normally have a small secondary sector and, in fact, Seward's ratio is fairly mature by Alaska standards.

When converted to an average annual full-time basis, Seward was found to have a total of 1,015 jobs in 1978 (see Table 56). The largest single sector in terms of employment was government, followed by the trade, service, manufacturing and agriculture, forestry and fishing sectors in that order. Employment in the remaining sectors accounted for only a relatively small proportion of Seward's jobs in 1978 except for mining which had no employees in the community.

A total of 354 average annual full-time jobs was identified in the government sector of Seward's economy in 1978. All 98 jobs in local government are considered to be secondary. Close to three-quarters of all State jobs counted in the community, however, were judged to be basic. The two largest State employers here were the Alaska Department of

TABLE 56
AVERAGE ANNUAL FULL-TIME EMPLOYMENT a/
SEWARD, ALASKA

<u>Industry Classification</u>	<u>Number</u>	<u>%</u>	<u>% Basic</u>	<u>Basic Number</u>	<u>Secondary Number</u>
Agriculture, Forestry and Fishing	100	9.8	100	100	0
Mining	0	---	100	0	0
Contract Construction	9	0.9	0	0	9
Manufacturing	121	11.9	97	117	4
Transportation, Communication & Public Utilities	57	5.6	63	36	21
Trade	193	19.0	42	82	111
Finance, Insurance & Real Estate	20	2.0	0	0	20
Service	161	15.9	38	62	99
Government	354	34.9	60	214	140
Federal	(104)	(10.2)	(95)	(99)	(5)
State	(152)	(15.0)	(76)	(115)	(37)
Local	(98)	(9.7)	(0)	(0)	(98)
<u>TOTAL</u>	<u>1,015</u>	<u>100.0</u>	<u>60.2</u>	611	404

a/ Includes self-employed personnel.

Source: Alaska Consultants, Inc. August 1978.

Transportation and Public Facilities' Division of Marine Transportation and the Alaska Department of Education. Division of Marine Transportation employment is associated with the M/V Tustumena which makes Seward its home port, while the Department of Education is represented locally by the Seward Skill Center. All remaining basic State employment in Seward is connected with the University of Alaska's Institute of Marine Science.

Seward also has a significant amount of federal government employment, all of which was judged to be basic in 1978 except for that derived from the operation of the Post Office. The largest single federal employer was the U.S. Forest Service with 32 full-time and 16 seasonal employees plus persons enrolled in its Youth Conservation Corps and Young Adults Conservation Corps programs. However, the U.S. Coast Guard also has a complement of 15 personnel in the Seward area performing search and rescue and port safety missions, the Army and Air Force recreation areas are staffed by a combined total of about 9 persons and the Alaska Railroad has 6 local employees.

Trade was the second largest employment sector in Seward in 1978 although only around 40 percent of the jobs in this sector were judged to be basic. Essentially all of the basic jobs in this sector are tourist or fisheries-related. Seward has a very large number of restaurants and bars for a town of this size which derive a significant share of their business from transient tourist and fisheries traffic. Similarly, Seward has more boat and marine servicing businesses than would normally be warranted in a town of this size for the same reasons.

A total of 161 average annual full-time jobs in the service sector was identified in Seward in 1978, with close to 40 percent being basic. Approximately one-quarter of these jobs were associated with the operation of the Wesleyan Nursing Home. The remaining basic jobs in this sector were primarily associated with hotel and motel operations serving transient visitors to the community.

On an average annual full-time basis, 100 jobs in fishing were identified in Seward in 1978. All of these jobs are considered basic. In addition, the manufacturing sector had a total of 121 average annual full-time employees in the community in 1978, all of whom were basic except for those associated with publication of the local newspaper. The largest single employer in the manufacturing sector was Seward Fisheries which had an annual average of 63 employees but which had as many as 250 during the peak season (July/August). The other major employer was Kenai Lumber with an annual average of 30 employees.

Transportation, communication and public utilities accounted for an annual average of 57 jobs in Seward in 1978, with close to two-thirds of these jobs judged to be basic. Almost all of these basic jobs were held by stevedores associated with the unloading of Alaska Railroad barges and other vessels. A total of 29 jobs was counted in the finance, insurance and real estate (20 jobs) and contract construction (9 jobs) sectors in Seward in 1978. However, all of these jobs were determined to be secondary.

Unemployment and Seasonality of Employment

Like most Alaska communities where fishing and fish processing and tourism are significant elements in the local economy, employment in the Seward area exhibits a high degree of employment **seasonality**. In 1976, nonagricultural wage and salary employment in the Seward division ranged between about 72 percent and 134 percent of the annual average (see Figure 2 on page 40). While not as extreme as the Cordova-McCarthy division, Seward exhibited considerably greater seasonal variation in employment than did the Kodiak division which has a much larger fishing and fish processing industry but one which is more of a year-round operation.

Unemployment rates in Seward in 1976 were well above Statewide averages and exceeded those of all other census divisions in **Southcentral** Alaska in that year except for Matanuska-Susitna. Using Alaska Department of Labor unadjusted figures, an average of 18.9 percent of the Seward division's civilian labor force was unemployed in 1976 compared with a Statewide average of 10.5 percent. Although unemployment rates in the Seward area did not approach the extremes recorded in the **Matanuska-Susitna** division (31.9 percent) in 1976, except for 1975 unemployment rates in the Seward division have been in excess of 16 percent since 1970 whereas Statewide rates ranged between 10 and 11 percent during that period (except in 1975 when they too were lower).

Like its employment, unemployment in Seward shows strong seasonal variations. Local unemployment rates in this census division in 1976 were lowest in May (10.9 percent) when the total civilian labor force was at its peak. However, the greatest rate of unemployment occurred in December when the civilian labor force was below peak levels but well above its lowest. During that month, an extremely high 35.9 percent of the total civilian labor force of the Seward division was recorded by the Alaska Department of Labor as being unemployed.

Unemployment is generally recognized as a problem in Seward. This community's economy is still going through a period of adjustment after losing its traditional function as the premier port for Southcentral Alaska to a combination of Whittier and Anchorage. Although it has gained basic employment in other sectors, these new jobs have yet to bring Seward's economy back to the level of prosperity which this community enjoyed in the mid-1950's. Thus, even in the month of least unemployment in the Seward division in 1978, the unemployment rate was higher than the average annual rate recorded for the State as a whole.

Recent Trends and Changes

Annual average nonagricultural wage and salary employment in the Seward division rose 60 percent between 1970 and 1976 (see Table 57), a welcome rate of growth for this area but one which was below the Statewide average rate (84 percent) during this same period. In 1974, Seward's total nonagricultural wage and salary employment averaged above 1963

(i.e. immediately pre-earthquake) levels for the first time although it was still below that recorded for 1961. In 1975, however, total nonagricultural wage and salary employment in the Seward division rose 23.2 percent from the previous year and was well above levels sustained immediately before the 1964 earthquake. Employment declined slightly in 1966 (by 1.3 percent), possibly due to a fall off in Pipeline-related activity.

Trends in employment in several of the Seward division's sectors between 1970 and 1976, including contract construction, manufacturing, transportation, communication and public utilities, and finance, insurance and real estate, cannot be measured with any assurance of accuracy because of disclosure regulations. Limited data available for contract construction employment indicates a generally low level of activity in this sector although upward fluctuations doubtless accompany the occasional major construction project. No data is available for manufacturing, but employment in this sector undoubtedly increased as the Seward Fisheries plant opened in 1970 and has since expanded its operations. Likewise, some upward trend in transportation, communication and public utilities employment probably accompanied the period of Pipeline construction but employment related to this activity may well have fallen off in 1976.

Government employment in the Seward division rose almost 16 percent between 1970 and 1976, with federal employment showing a greater percentage gain (40.5 percent) than a combination of State and local government (11.5 percent) although the latter exhibited a greater numerical increase.

TABLE 57
NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT DISTRIBUTION
SEWARD AREA
1970-1976

	1970		1971			1972		
	Number	%	Number	%	% Change	Number	%	% Change
Mining	<u>*/</u>		0			<u>*/</u>		
Contract Construction	<u>*/</u>		<u>*/</u>			12	1.5	
Manufacturing	<u>*/</u>		106	13.5		<u>*/</u>		
Transportation, Communications, and Public Facilities	<u>*/</u>		<u>*/</u>			<u>*/</u>		
Trade	104	14.7	122	15.5	17.3	126	15.6	3.3
Finance, Insurance and Real Estate	<u>*/</u>		<u>*/</u>			<u>*/</u>		
Service	128	18.0	120	15.2	- 6.3	120	14.5	0.0
Miscellaneous	<u>*/</u>		49	6.2		<u>*/</u>		
Government	294	41.4	315	40.0	7.1	306	37.9	- 2.9
Federal	(42)	(5.9)	(42)	(5.3)	(0.0)	(43)	(5.3)	(2.4)
State and Local	(252)	(35.5)	(273)	(34.7)	(8.3)	(263)	(32.5)	(- 3.7)
TOTAL	110	100.0	788	100.0	11.0	810	100.0	2.8

*/ Employment figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor, Employment Security Division, 1970-1976.
Alaska Labor Force Estimates by Area and Employment by Industry.
Juneau.

iber	1973		1974			1975			1976			1970 - 1976
	%	% Change	Number	%	% Change	Number	%	% Change	Number	%	% change	
			<u>*/</u>			<u>*/</u>			<u>*/</u>			
<u>*/</u>			<u>*/</u>			13	1.1		8	0.7	-38.4	
<u>*/</u>			<u>*/</u>			<u>*/</u>			<u>*/</u>			
			<u>*/</u>			<u>*/</u>			<u>*/</u>			
125	14.3	- 0.8	114	12.2	- 8.8	148	12.9	29.8	157	13.8	6.1	51.0
<u>*/</u>			<u>*/</u>			<u>*/</u>			<u>*/</u>			
123	14.1	2.5	143	15.3	16.3	139	12.1	- 2.8	152	13.4	9.4	18.8
<u>*/</u>			<u>*/</u>			<u>*/</u>			27	2.4		
289	33.1	- 5.6	296	31.7	2.4	335	29.1	13.2	340	29.9	1.5	15.7
32)	(-3.7)	(-25.6)	(37)	(4.0)	(15.6)	(61)	(5.3)	(64.9)	(59)	(5.2)	(-3.3)	(40.5)
257)	(29.4)	(-2.3)	(259)	(27.7)	(0.8)	(274)	(23.8)	(5.8)	(281)	(24.7)	(2.6)	(11.5)
274	100.0	7.9	935	100.0	70	1152	100.0	23.2	1137	100.0	-1,3	60.1

It is assumed that increases in federal government employment were primarily associated with the operations of the U.S. Forest Service. Since 1976, further increases in employment by this agency have taken place in the Seward area with the initiation of Youth Conservation Corps and Young Adults Conservation Corps programs.

Employment in trade in the Seward division increased 51 percent between 1970 and 1976, with much of the increase believed to be related to the servicing of Anchorage recreational boaters and transient fishermen and processing plant workers. Employment in services increased almost 19 percent during the 1970-1976 period, primarily for the same reasons as the gains recorded in trade.

Overall, the economy of the Seward division is much healthier in 1976 than was the case in 1970. However, when the average annual full-time employment of the immediate Seward area in 1978 is compared with that of the Seward division for 1976, it can be seen that relatively little growth occurred in the larger area during the past two years except in trade.

Occupational Skills

Comprehensive information on the skills of the workforce of the Seward area is generally lacking and there are no reliable or current statistics developed on an individual community basis. The Anchorage Urban Observatory (1977) in its 1976 survey of five Kenai Peninsula towns did

attempt to ascertain the occupations of employed adults in these communities. However, since standard occupational titles were not used in coding responses, the data is not very meaningful.

The Seward Manpower Center maintains a list of skills of persons who register there when looking for a job. Similar information is available for young people registering for work with the Youth Employment Service program. The skills claimed by these people are not necessarily representative of those of Seward's population as a whole. However, given the very high rates of unemployment which prevail in this community, they may well be indicative.

During the first nine months of FY 1978, a total of 734 adults registered at the Seward Job Service Center and another 112 young persons (up to age 25) registered with the Youth Employment Service program which is operated through the Job Service Center but which uses CETA funds. The largest group of adults (23 percent) registering with the Job Service Center claimed skills in services, followed by those in clerical and sales (18 percent) and structural work (16.4 percent) (see Table 58). Except for 83 registrants (11.3 percent) who were listed as unskilled, the only other occupational category claiming more than 10 percent of Job Service Center registrants was miscellaneous occupations (10.6 percent). This group includes occupations such as truck drivers, railroad workers, stevedores and loggers, a group which could be expected to be well represented in Seward.

TABLE 58

OCCUPATIONAL SKILLS
SEWARD JOB SERVICE REGISTRANTS
FY 1978 a/

<u>Occupational Category</u>	<u>Number</u>	<u>Percent of Total</u>
Professional /technical /managerial	48	6.5
Clerical and sales	132	18.0
Services	169	23.0
Farming, fishery, forestry	27	3.7
Processing	49	6.7
Machine trades	27	3.7
Bench work	1	0.1
Structural work	120	16.4
Miscellaneous	78	10.6
Unskilled	83	11.3
<u>TOTAL</u>	734	<u>100.0</u>

a/ Data as of June 30. Fiscal year ends September 30.

Source: Alaska Department of Labor, Employment Security Division.
Anchorage.

TABLE 59

OCCUPATIONAL SKILLS
SEWARD YOUTH EMPLOYMENT SERVICE REGISTRANTS
FY 1978 a/

<u>Occupational Category</u>	<u>Number</u>	<u>Percent of Total</u>
Professional /technical /managerial	0	0.0
Clerical and sales	9	8.0
Services	63	56.2
Farming, fishery, forestry	15	13.4
Processing	5	4.5
Machine trades	2	1.8
Bench work	1	0.9
Structural work	3	2.7
Miscellaneous	1	0.9
Unskilled	13	11.6
<u>TOTAL</u>	112	<u>100.0</u>

a/ Data as of June 30, 1978. Fiscal year ends September 30.

Source: Alaska Department of Labor, Employment Security Division.
Anchorage.

Young people registering with the Youth Employment Service program claimed a somewhat different mix of skills than did their adult counterparts. Over 50 percent of this group claimed skills in services, followed by about 13 percent in farming, fishery, forestry (i.e. fishing) and almost 12 percent who listed no skills (see Table 59).

Income Levels

According to the 1970 U.S. Census, the median income of families and unrelated individuals in the Seward census division in 1969 was \$11,381 (see Table 60), slightly below the Statewide median for that year of \$12,443. However, these statistics are now nine years old and, given inflation rates since that time, are almost meaningless today except in relative terms. A more recent survey of Kenai Peninsula Borough communities by the University of Alaska (1977) found the median family income in the Seward urban area to be \$15,625 in 1975 (see Table 61). This was the lowest found for any of the Kenai Peninsula towns surveyed except Homer and was well below the mean household income reported for the immediate Cordova area in 1974 by Alaska Consultants, Inc. (February 1976).

According to Alaska Department of Labor statistics published in the Statistical Quarterly, average monthly wages in the Seward division in 1976 were \$1,178, lower than all but six other census divisions in the State that year and well below the Statewide average (\$1,928). Statewide statistics in 1976 were distorted by the very high wages realized by many persons working on the Pipeline. Although Seward received some

TABLE 60

INCOME OF FAMILIES AND UNRELATED INDIVIDUALS
SEWARD CENSUS DIVISION
1969

<u>Income</u>	<u>Percent of Total</u>
Under \$3,000	11.0
\$3,000- \$4,999	4.5
\$5,000- \$6,999	12.8
\$7,000- \$9,999	12.8
\$10,000- \$14,999	30.6
\$15,000- \$24,999	24.0
\$25,000 or more	4.3
<u>TOTAL</u>	<u>100.0</u>
Median Income	\$11,381

Source: U.S. Department of Commerce, Bureau of the Census. 1971. General Social and Economic Characteristics, Alaska. Washington, D.C. Final Report PC(1)-C3.

TABLE 61

HOUSEHOLD INCOME DISTRIBUTION
SEWARD, ALASKA
1975

<u>Household Income</u>	<u>Percent of Total</u>
Under \$2,500	2.5
\$2,500 - \$4,999	8.9
\$5,000- \$7,499	10.1
\$7,500- \$9,999	6.3
\$10,000- \$14,999	20.3
\$15,000- \$19,999	8.9
\$20,000- \$24,999	8.9
\$25,000- \$29,999	7.6
\$30,000 or more	26.5
<u>TOTAL</u>	<u>100.0</u>
Median Household Income	\$15,625

Source: Bureau of Management and Urban Affairs, and Anchorage Urban Observatory, University of Alaska. 1977. Profile of Five Kenai Peninsula Towns. Anchorage.

economic benefit from this activity, the highest paid workers were employed in areas remote from this community. It should also be noted that most of Seward's fishermen are excluded from nonagricultural wage and salary statistics and, as a group, could be expected to have reasonably high incomes.

A look at average monthly wages by industry sector for nonagricultural industries in the Seward division from 1975 through the third quarter of 1977 (see Table 62) indicates that the highest average monthly wages were realized in the Miscellaneous and Nonclassifiable sector. The average monthly wage in this sector for the third quarter of 1977 was a very high \$5,470. This group includes some fishermen who could be expected to earn higher incomes during the peak fishing months but it is unknown what other groups are included in this sector in Seward's case.

Average monthly wages in Seward's other employment sectors are much more modest. However, the average monthly wage in services during the third quarter of 1977 (\$1,701) was above Statewide averages (\$1,548), while that in federal (\$1,571 versus \$1,573 Statewide) and State and local government (\$1,661 versus \$1,802 for State and \$1,366 for local government Statewide) was approximately the same. In all other sectors, the average monthly wage in the Seward division was below State averages during the third quarter of 1977 or was affected by disclosure regulations.

Not surprisingly for a community with chronic unemployment problems and fairly low family income levels, welfare in the form of general assistance

AVERAGE MONTHLY WAGE BY INDUSTRY SECTOR
SEWARD DIVISION
1975 - 1977

	1975				1976				1977		
	1st Qr	2nd Qr	3rd Qr	4th Qr	1st Qr	2nd Qr	3rd Qr	4th Qr	1st Qr	2nd Qr	3rd Qr
TOTAL NONAGRICULTURAL INDUSTRIES	\$1,184	\$ 993	\$1,090	\$1,365	\$1,181	\$1,088	\$1,186	\$1,305	\$1,355	\$1,039	\$1,258
Mining	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>
Construction	\$1,544	\$1,164	\$1,155	\$1,219	\$1,401	\$1,246	\$1,003	\$3,235	<u>*/</u>	\$2,288	\$1,666
Manufacturing	\$ 865	<u>*/</u>	\$ 835	\$ 962	\$ 990	\$ 917	\$1,095	<u>*/</u>	\$ 906	<u>*/</u>	<u>*/</u>
Transportation, Communications & Public Utilities	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>
Wholesale Trade	---	---	---	---	---	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>	<u>*/</u>
Retail Trade	\$ 684	\$ 635	\$ 767	\$ 730	\$ 851	\$ 733	\$ 861	\$ 893	\$ 878	\$ 815	\$ 816
Finance, Insurance & Real Estate	<u>*/</u>	\$ 676	<u>*/</u>	\$ 703	\$ 867	\$ 785	<u>*/</u>	\$ 818	<u>*/</u>	<u>*/</u>	\$ 950
Services	\$ 582	\$ 637	\$ 651	\$ 702	\$ 663	\$ 667	\$ 717	\$ 724	\$ 883	\$ 891	\$1,701
Federal Government	\$1,306	\$1,451	\$1,202	\$1,894	\$1,916	\$1,589	\$1,393	\$1,616	\$1,190	\$1,869	\$1,211
State and Local Government	\$1,420	\$1,420	\$1,429	\$1,454	\$1,900	\$1,718	\$1,625	\$1,619	\$1,672	\$1,662	\$1,661
Miscellaneous & Nonclassifiable	<u>*/</u>	\$ 636	\$1,852	\$2,231	\$ 629	\$1,199	\$2,249	\$6,645	<u>*/</u>	<u>*/</u>	\$5,470

*/ Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor, Employment Security Division. 1975-1977. Statistical Quarterly. Juneau.

TABLE 63

GENERAL ASSISTANCE PAYMENTS a/
SEWARD, ALASKA
FY 1972 - FY 1977

	FY 1972	FY 1973	FY 1974	FY 1975	FY 1976	FY 1977
Total Payment	\$15,942	\$4,308	\$2,618	\$ 5,424	\$6,734	\$16,061
Number of Cases	14	7	2	9	3	12
Average Payment:						
Annual	\$1,100	\$ 615	\$ 1,309	\$ 603	\$ 2,245	\$ 1,338
Monthly	\$	\$ 51	\$ 109	\$ 50	\$ 186	\$ 112

a/ Payments made by the Bureau of Indian Affairs.

Source: U.S. Department of the Interior, Bureau of Indian Affairs.
Juneau.

TABLE 64

PUBLIC ASSISTANCE PROGRAM PAYMENTS
SEWARD, ALASKA
OCTOBER 1977 a/

	Old Age Assistance	Aid to the Blind	Aid to the Disabled	Aid to Families with Dependent Children	Total
Total Payment	\$ 725	\$ 176	\$1,906	\$7,599	\$10,406
Number of Cases	7	1	13	24	45
Average Payment	\$ 104	\$ 176	\$ 147	\$ 317	\$ 231

a/ October is considered to be a representative month for public assistance payments.

Source: Alaska Department of Health and Social Services, Division of Public Assistance.

payments made by the Bureau of Indian Affairs to Alaska Natives or public assistance program payments distributed by the Alaska Department of Health and Social Services, is a significant source of income in some Seward households. The Bureau of Indian Affairs distributed a total of \$16,061 to 12 individual "cases" in the Seward area in FY 1977 (see Table 63). Since Seward has a small permanent Alaska Native population, it is assumed that at least some of these payments were made to Seward Skill Center students of whom approximately half are Alaska Natives.

Statistics provided by the Alaska Department of Health and Social Services' Division of Public Assistance indicate that \$10,406 was distributed to 45 individual "cases" in Seward during a typical month in 1977, for an average monthly payment of \$231 (see Table 64). Slightly over half of these cases received Aid to Dependent Children funds, followed by 13 receiving Aid to the Disabled payments. All told, almost twice as many Seward residents received some form of State welfare in 1977 as did those in Cordova.

SECTOR ANALYSIS

Fishing and Fish Processing

The fishing and fish processing industry is a significant source of employment and income for many Seward residents. Before the 1964 earthquake, there were three seafood processing operations in this community. However, the two major processing plants were destroyed in

the earthquake and only one was rebuilt. Today, the community has one major processor, Seward Fisheries, Inc., plus two smaller firms, Alaska Sea Products, Inc. and Anderson Seafoods. Approximately 80 persons were employed in fish processing on an average annual year-round basis in Seward in 1978, plus another 100 in fishing. Not all of these people, however, are local residents.

For statistical purposes, Seward is included within the Cook Inlet fisheries area. Seward is an important fishing port in the area but it does not dominate as Yakutat, Cordova and Kodiak do their areas. Other major fisheries ports in the Cook Inlet area include Seldovia, Homer, Kenai, Ninilchik and Anchorage. Seward is relatively isolated from other communities in the area and its fishing and fish processing industry differs from those communities in several important respects. Furthermore, Seward Fisheries has corporate connections with plants in Homer and Ninilchik which tends to strengthen intra-area differences. For example, most king and Dungeness crab is processed at the company's Homer plant which is closer to the primary fishing grounds for these species in the Cook Inlet area.

While Seward is located within the Cook Inlet fisheries area, a major share of fish products landed and processed in this community come from other fisheries areas. For example, salmon processed by Seward Fisheries in 1978 came from the Prince William Sound, Kodiak and Chignik fisheries areas as well as Cook Inlet, while close to half of the herring processed at this same plant came from Prince William Sound. Thus, Seward's

fisheries industry must be viewed in a much broader context than that of the Cook Inlet fisheries area.

According to Seward Fisheries spokesmen, the Seward plant processed approximately 3,628,800 kilograms (8 million pounds) of salmon in 1978, of which about 1,360,800 kilograms (3 million pounds) were canned and the remainder was frozen. Although 1978 was an exceptionally good year, salmon production in the 2,721,600 to 3,628,800 kilogram (6 to 8 million pound) range is generally typical of this plant's operations. However, the operators indicated that they froze more red salmon in 1978 than usual.

Relatively few salmon are taken in the immediate Seward area as the Eastern district of the Cook Inlet fisheries area is not a major salmon producer. The district does have a commercially significant "even year" pink salmon run which has yielded good catches since 1968 except in 1974. However, the "odd year" pink salmon runs here remain minimal. For example, the 1978 commercial pink salmon catch for this district was 29,738 fish compared with only 1,349 in 1977. According to Alaska Department of Fish and Game officials in Homer, the 25 year average for pinks caught in the Eastern district is 12,892 fish. However, the average is depressed by the poor odd year runs, with even year catches since 1968 (except for 1974) ranging between 18,000 and 42,000 fish.

Other salmon species taken by commercial fishermen in the Eastern district of the Cook Inlet fisheries area in 1978 amounted to only 2

reds, 582 **cohos** and 100 chums. Aside from pinks, the same district yielded 5,776 reds, no **cohos** and 3,229 chums in 1977. No **kings** were taken in either year. Coho salmon can no longer be legally taken by commercial fishermen in Resurrection Bay as this is now exclusively a sport fishery which is managed by the Division of Sport Fish in the Alaska Department of Fish and Game. Bear Lake was rehabilitated to rear **cohos** for sport fishermen in the late 1960's and continues to be the major producing system in the area.

To supplement the limited amount of salmon taken in the Eastern district, Seward Fisheries purchases salmon **caught** in other fisheries areas. In 1978, this included fish from the Prince William Sound, Kodiak and **Chignik** areas as well as from other districts in the Cook Inlet fisheries area. According to Alaska Department of Fish and Game officials in Homer, a significant share of salmon delivered to Cook **Inlet** ports is trucked to Seward rather than being transported by boat.

The outlook for salmon in the Cook Inlet fisheries area appears good. Alaska Department of Fish and Game officials in Homer report that salmon runs in the lower Cook Inlet area are **building** up, particularly in the Outside district, and that a record catch may be taken here in 1979. In the immediate Resurrection Bay area, there are conflicts between commercial and sport fishermen, **including** competition for boat harbor berths. Providing the more serious of these conflicts can be resolved, Seward's convenience to adjacent commercial salmon fisheries areas such as Prince William Sound and Kodiak should continue to ensure this community's function as an important salmon processing center in the future.

Halibut is an important fisheries product in Seward. According to Seward Fisheries, their Seward plant froze about 1,587 kilograms (3.5 million pounds) of halibut in 1978. This is approximately the same as in 1977 when, according to the International Pacific Halibut Commission, 2,002,190.4 kilograms (3,149,000 pounds) of halibut were landed at Seward.

Unlike other Alaska fisheries, halibut is an international fishery with catch levels and the length of the fishing season regulated by the International Pacific Halibut Commission. The 1978 quota for Area 3 (which extends westward from Cape Spencer out along the south side of the Aleutians) was set at 4,989,600 kilograms (11 million pounds). Fishing periods were established from May 8 to May 31, June 19 to July 6, July 25 to August 10 and August 26 to September 11, with the season to close as soon as the quota was reached. International Pacific Halibut Commission officials indicated that the 1978 Area 3 season closed on August 4.

Halibut catches have declined sharply in recent years and the quotas have been adjusted downward accordingly. For example, the quota for Area 3 was as high as 11,340,000 kilograms (25 million pounds) as recently as 1973. A slight improvement has been noted in Area 3 during the past two or three years but stocks remain at a low level. According to preliminary figures provided by the International Pacific Halibut Commission, a total of 5,488,560 kilograms (12.1 million pounds) of halibut was taken in Area 3 in 1978, approximately the same as the 1977

catch of 5,609,671.2 kilograms (12,367,000 pounds) which was taken under the same quota conditions.

While Seward is a major halibut port, Alaska Department of Fish and Game officials interviewed in Kodiak expressed the belief that this fishery has little future potential, particularly if large scale entry into bottomfishing is undertaken. In their opinion, a major bottomfish industry would probably place too much pressure on limited halibut stocks and could result in the elimination of halibut as an independent commercial fishery. Even if such conflicts can be averted, however, the outlook for halibut at best offers only a very limited potential for growth.

The herring sac roe fishery is normally a significant element in Seward's fishing and fish processing industry. This is a highly seasonal fishery with most fishing effort concentrated between April and June. Except for a minor amount taken in the Eastern district in 1975, herring have not been taken in Resurrection Bay since 1974. According to Seward Fisheries, about half of the herring processed at Seward presently comes from other districts in the Cook Inlet fisheries area and the remainder from Prince William Sound.

Seward Fisheries personnel reported that 1978 was a particularly poor year for herring and that it processed only about 113,399 kilograms (250,000 pounds) compared with a more typical production level of around 1,360,800 kilograms (3 million pounds). Herring is currently frozen in

the round and shipped to Japan where the eggs are extracted and the fish used for human consumption. Only very minor amounts of herring are taken and frozen for bait.

Tanner crab is normally a commercially significant fishery in Seward. Seward Fisheries freezes crab in sections although some is marketed fresh. According to Seward Fisheries personnel, their plant at Seward processed only about 226,799 kilograms (500,000 pounds) during the first four months of 1978 and does not expect to process any more when the season opens again in December. Normally, this Seward plant processes two to three times the 1978 production level.

Most tanner crab delivered at Seward are taken from the Eastern and Outer districts of the Cook Inlet fisheries area. According to the Alaska Department of Fish and Game's Homer office, these areas have a fairly large unexploited tanner crab resource. However, a major reason for the low level of exploitation is the poor weather characteristic of these areas. Reportedly, when the legal size limit of 13.5 centimeters (5.3 inches) for male tanner crabs was imposed in 1976, most vessels which had fished the Outer and Eastern districts moved instead to Kodiak where the fishing was easier and more profitable.

Despite the current lack of fishing effort, the outlook for tanner crab processing at Seward appears good, given the existence of nearby under-exploited tanner crab resources. The same is not true of king crab. In the past, king crab has been frozen in sections at the Seward Fisheries

plant, with some marketed fresh. However, virtually no king crab was processed at Seward in 1978. Seward Fisheries reports that the 1978 season was poor and crab caught was instead processed at its recently acquired former Alaska Seafoods plant on Homer Spit which is closer to the more productive Kamishak Bay and Southern districts. In the opinion of the Alaska Department of Fish and Game's Homer office, this is likely to continue in the future.

The Seward Fisheries plant has expressed a strong interest in expanding into the bottomfish industry within the next two to five years. According to company spokesmen this would necessitate the construction of a whole new plant and additional dock facilities.

Interest by Alaska processors in bottomfishing has accelerated following the U.S. declaration of a 321.86 kilometer (200 miles) offshore territorial limit. One of Seward Fisheries' parent companies, the New England Fish Company, is currently involved in a bottomfish venture out of Kodiak and its other parent firm, Icicle Seafoods, Inc., has been active in bottomfish processing in the Petersburg area. Depending on the level of success of the Kodiak venture, the establishment of a bottomfish industry at Seward currently appears likely. Seward has a locational advantage in that it is convenient to both the Yakutat and Kodiak grounds. A disadvantage is its lack of a sizable resident fishing fleet.

The bottomfish industry is a new fishery with many attendant unknowns. The resource off Alaska is large and has traditionally been exploited by

foreign fleets. For example, during the period from 1966 to 1969, the Japanese and Russian fleets took a combined average of 246,000 metric tons (or more than one-half billion pounds) of bottomfish annually in the offshore area between Vancouver Island, B.C. and the Aleutians. However, the extent to which American vessels are permitted to deliver bottomfish products to these foreign fleets, as has been proposed under a joint venture between an Alaskan and a Korean firm (Alaska Fisherman's Journal, August 1978), could have a major negative impact on the feasibility of establishing onshore bottomfish processing plants,

Oil and Gas Exploration and Development

As of September 1978, there was no activity in Seward associated with offshore oil and gas operations although the drilling rig, Ocean Ranger, was still stored in Resurrection Bay. However, Seward experienced a brief flurry of activity following the April 1976 outer continental shelf oil and gas lease sale in the northern Gulf of Alaska and could conceivably experience similar or greater levels of activity following future offshore sales in this region.

As a result of the April 1976 offshore lease sale, Exxon, Gulf and Texaco based their offshore service operations out of Seward while Shell and ARCO, which used Yakutat as their primary base, were also represented at Seward. In addition, Sun Oil, which was involved in a stratigraphic test well drilling program on the Kodiak Shelf operated out of Seward for a few months during 1977. Together, these firms had five company

representatives stationed in Seward during much of 1977. Other onshore jobs temporarily accruing to Seward as a result of offshore oil and gas exploration activities included those associated with Dresser Industries, which hired 6 or 7 local Seward residents in connection with its supply base operation, and two or three boat company representatives.

Most supply boats servicing the offshore rigs operated out of Seward.

According to Texaco spokesmen, as many as 13 vessels called at this community at the peak of activity (including 3 vessels under contract to ARCO/Shell which used Yakutat as their primary base), although not more than 6 were in Seward at any one time. Unlike Yakutat, no special dock facilities were constructed to serve offshore exploration activities.

Instead, supply boats used the Alaska Railroad dock although ARCO and Shell also used the State ferry dock. Consideration had been given to constructing new dock facilities if commercial quantities of oil or gas were discovered offshore but this proved unnecessary. Supply boat crews changed in Seward. However, few of these people remained in the community for more than a few hours.

The peak of oil and gas-related activity at Seward occurred during the summer of 1977 and, according to Texaco spokesmen, started falling off by September of that year. The final offshore well was spudded near the end of March 1978 and, shortly thereafter, the last of the companies which had based their operations in Seward left the community.

Wood Products

The wood products industry has long been a factor in Seward's economy. Today, a mill operated by the Kenai Lumber Company (Louisiana Pacific is its parent company) is located near the Alaska Railroad dock and cuts both dimension lumber and cants, the latter for the Japanese market, and also produces chips, most of which are exported.

The mill at Seward is large by Southcentral Alaska standards, producing between 12 and 15 million board feet of lumber/cants per year. Normally this mill closes during the winter months but, according to Kenai Lumber Company officials, a winter operation is planned this year. A total of 31 jobs are currently provided by the mill, 6 of them in management positions.

Most timber for the Kenai Lumber Company sawmill currently comes from the Prince William Sound area. Louisiana Pacific finished logging a sale on Latouche Island during the spring of 1978 and the company has also been getting timber from other locations in the Sound such as Montague Island. In addition, some timber has been obtained from the Cook Inlet area.

Obtaining adequate supplies of timber is a major problem for Southcentral Alaska wood products operators and, according to the Kenai Lumber Company, this is a major inhibiting factor in its operation. The timber supply outlook in this area does not appear promising in the immediate

future unless the Seward mill is able to enter into agreements with other operators. One such possibility could be the South Central Timber Development Company's Icy Bay operation where in excess of 60 million board feet remain to be cut and from where logs are currently barged to Jakolof Bay near Seldovia. Native corporations which were able to select timber lands under the terms of the Alaska Native Claims Settlement Act are another potential source of timber supplies. However, title to most land selected by these groups has yet to be conveyed. Furthermore, the primary processing requirement which applies to timber sold from federal and State lands does not apply to private lands and, thus, timber from Native lands may be round logged and exported. In view of the uncertainties confronting timber supplies in this area, no growth in employment in the wood products industry is expected in the Seward area even though the local mill has the capability of producing more lumber/cants than it currently does.

Tourism and Recreation

The Seward area offers a wide variety of outdoor recreation experiences which attract large numbers of visitors, most of them from the Anchorage metropolitan area, to the community during the summer months. This area has a spectacular natural setting and supports a wide variety of game animals, birds and marine life. However, the primary attraction of Seward for visitors is the exceptional recreational boating opportunities available here. Seward is within convenient driving distance of Anchorage and is also accessible by air via Alaska Aeronautical Industries' scheduled

flights although poor weather conditions and a short landing strip often make the latter service unreliable. In addition, air charter services are also available at Seward.

A major share of the basic jobs identified in the trade and service sectors of Seward's economy in 1978 were judged to be derived primarily from tourism. In addition, jobs associated with the operation of the M/V Tustumena can be considered tourist-related. A characteristic of tourist-derived jobs in Seward, as in most of the rest of Alaska, however, is that they are highly seasonal. After the recreational boating season has ended, visitors from the metropolitan Anchorage area travel elsewhere for entertainment and jobs in Seward which are dependent on this traffic are lost until the following season.

An indication of Seward's popularity as a recreational boating center can be gauged from the use of the community's small boat harbor facilities. Close to 1,300 boats were registered in the harbor during the summer of 1978 and another 300 boats were on the waiting list. This is obviously many more vessels than could be accounted for by locally based commercial and recreational boats.

Anchorage residents currently make heavy use of Seward, Whittier and Homer for salt water recreational boating activities. With the future growth of the Anchorage metropolitan area, recreation demands placed on all three towns should show a commensurate increase. Although Seward offers more limited boating opportunities than do the other two communities,

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it can be more conveniently reached and, unlike Whittier, is a city with a range of other urban amenities and attractions for visitors.

Seward's connection to the State marine highway system also attracts tourists to this community. Seward is the home port for the M/V Tustumena which connects Seward with Valdez, Cordova, Kodiak and several lower Cook Inlet towns. The seasonality of use of this vessel indicates heavy patronage by tourists while significant increases in passenger and vehicle disembarkations at Seward between 1970 and 1977 indicate this community's growing importance as a terminus of the Tustumena's routes (see Table 65). Given the popularity of the ferry system with tourists, further increases in tourist traffic at Seward from this source can be expected in the future.

Another important source of visitors to Seward is the U.S. Air Force and the Army which maintain camps at the north end of town for military personnel and their guests. According to the Air Force, its facilities include 10 motel units (capable of sleeping four people each), 9 three bedroom trailer units (each capable of sleeping five to six people), 3 two bedroom trailer units (each sleeping three to four people), an open bay dormitory sleeping 16 people, 29 trailers and camper sites with electricity and 46 trailer and camper sites without electricity. In addition, the Air Force provides dining facilities and an indoor recreation area. This facility was open from May 26 through September 5 in 1978 and was staffed by approximately 30 military and civilian personnel. In 1978, 8,851 eligible people took advantage of these facilities for a

TABLE 65
PASSENGER AND VEHICLE DISSEMBARKATIONS
M/V TUSTUMENA
SEWARD, ALASKA
1970 - 1977

<u>Month</u>	<u>1970</u>		<u>1977</u>	
	P	V	P	V
January	24	2	71	55
February	68	17	156	43
March	35	37	144	92
April	26	15	145	90
May	52	20	165	59
June	72	28	583	125
July	106	39	263	58
August	226	64	666	164
September	49	19	343	150
October	32	10	83	73
November	21	14	85	60
December	48	21	75	79
<u>TOTAL</u>	759	286	<u>2,779</u>	<u>1,048</u>

Source: Alaska Department of Transportation and Public Facilities,
Division of Marine Highways. Personal communication.

total of 25,316 man-days. This was more than in 1977 when 6,657 eligible people stayed here for a total of 22,622 man-days. However, the difference was primarily due to the camp opening earlier in 1978.

The Army facility is open during approximately the same period as the Air Force camp. According to Army spokesmen, 130 guest spaces are available for rent in 24 quonset huts, each divided into two sections.

In addition, the Army campground can accommodate 50 motor homes or campers, with water and electric services available for each. Indoor recreation and dining facilities are also provided. Army spokesmen indicated that the camp was staffed by 54 military and 8 civilian personnel and that their facility maintained a 100 percent occupancy rate, with an average of 5,000 visitors per season.

Besides attracting recreational boaters, ferry passengers and military personnel, Seward also attracts other visitors. The Chugach National Forest borders the community to the north and east and offers a range of attractions for outdoorsmen, including camping, hiking, hunting and fishing, and a share of these people visit Seward. In addition, special events such as Seward's Silver Salmon Derby and the Mount Marathon Race attract large numbers of people to the community for short periods.

In the future, the proposed establishment of a Kenai Fjords National Park near Seward promises to add another dimension to tourism in this community. As proposed in the 1978 D-2 legislation, this would be the only national park in Alaska except for Mt. McKinley National Park which

would be easily accessible by road and it could therefore expect to receive a high degree of visitation. As currently proposed, portions of the park would be developed for visitors. The master plan assumes that a road would be constructed to provide access from Seward to the ice field at Exit Glacier and that marine service from Seward will permit visitors to travel to Nuka Bay at the southern boundary of the park where a lodge is proposed to be constructed. If this plan is implemented, further significant increases in tourism at Seward can be anticipated.

Institutional Activities

Seward has two major institutional employers, the Wesleyan Nursing Home and the Seward Skill Center. Both institutions make significant contributions to Seward's economy in that they serve patients and students from outside the Seward area and thus bring "new" dollars into the community

The Wesleyan Nursing Home is a Medicaid-approved skilled nursing facility which caters to long term chronic disease, psychiatric and geriatric patients. The 64 bed home was built in 1952 as a tuberculosis sanitarium but has functioned as a nursing home since 1967. Prior to that time, all judicially committed Alaska patients were sent to Morningside hospital in Portland, Oregon. However, these patients were returned to Alaska in 1967 and most of those whose needs could be accommodated through nursing home care were sent to Seward.

All patients at the Wesleyan Nursing Home are funded through the Medicaid program except for a few under the Veterans Administration's nursing home program. The Home only rarely serves private patients. According to the Home's administrator, approximately two-thirds of this facility's patients are Alaska Natives. In her opinion, Seward is a more acceptable location for many rural residents requiring long term care than are the major population centers such as Anchorage or Fairbanks. Officials at South Central Health Planning and Development, Inc., a health planning group serving southcentral and western Alaska and north to the Norton Sound area, confirmed that patients at the Wesleyan Nursing Home express a high degree of satisfaction with the level of care which they receive at that facility.

The Wesleyan Nursing Home employed 41 persons in 1978. Included in this figure were 27.5 professional employees - an administrator, 5 registered nurses (one of whom was employed part-time), 2 licensed practical nurses, 17 nurse aides and 3 orderlies. The remaining employees were engaged in janitorial, housekeeping, laundry and kitchen activities. No doctors are associated with the Wesleyan Nursing Home. A local physician makes scheduled weekly visits and is on call for emergencies, while an Anchorage psychiatrist visits the facility once a month.

The impact of the Wesleyan Nursing Home on Seward's economy is generally limited to the jobs which this institution provides and any supplies which it purchases locally as the patients have little direct contact with the community. This is not true of Seward's other major institution, the Seward Skill Center.

The Seward Skill Center opened at Seward in December 1963. This facility is operated by the Alaska Department of Education and offers a comprehensive range of training programs **designed** to lead to immediate job placement for graduates. The Skill Center had 55 employees as of October 1978, including one part-time and 27 full-time teachers, 5 administrators, 10 clerical/secretarial employees, a nurse and a complement of dormitory, janitorial and kitchen help. Student enrollment **averages** between 190 and 200 although the facility can accommodate as many as 250 at one time. **According** to the director, **the** Skill Center handles a total of about 650 students during a typical year, about half of whom are Alaska Natives. Since they are over 18 and about 90 percent are from outside the Seward area, Skill Center students as well as employees have a significant impact on Seward's economy.

A wide range of courses is offered at the Seward Skill Center. These courses vary according to demand. However, according to the director, the primary emphasis of courses offered is the placement of **graduates** when they have completed their training. At the present time, the **largest** enrollment, about 40 students, is in office occupational courses. Other courses offered include auto mechanics, oil technician, food services, diesel mechanics and welding, plus a number of shorter courses such as rural electrical power generation, **building** maintenance in rural areas and others. The Skill Center is also interested in **becoming** involved in new areas such as training for **bottomfishing**.

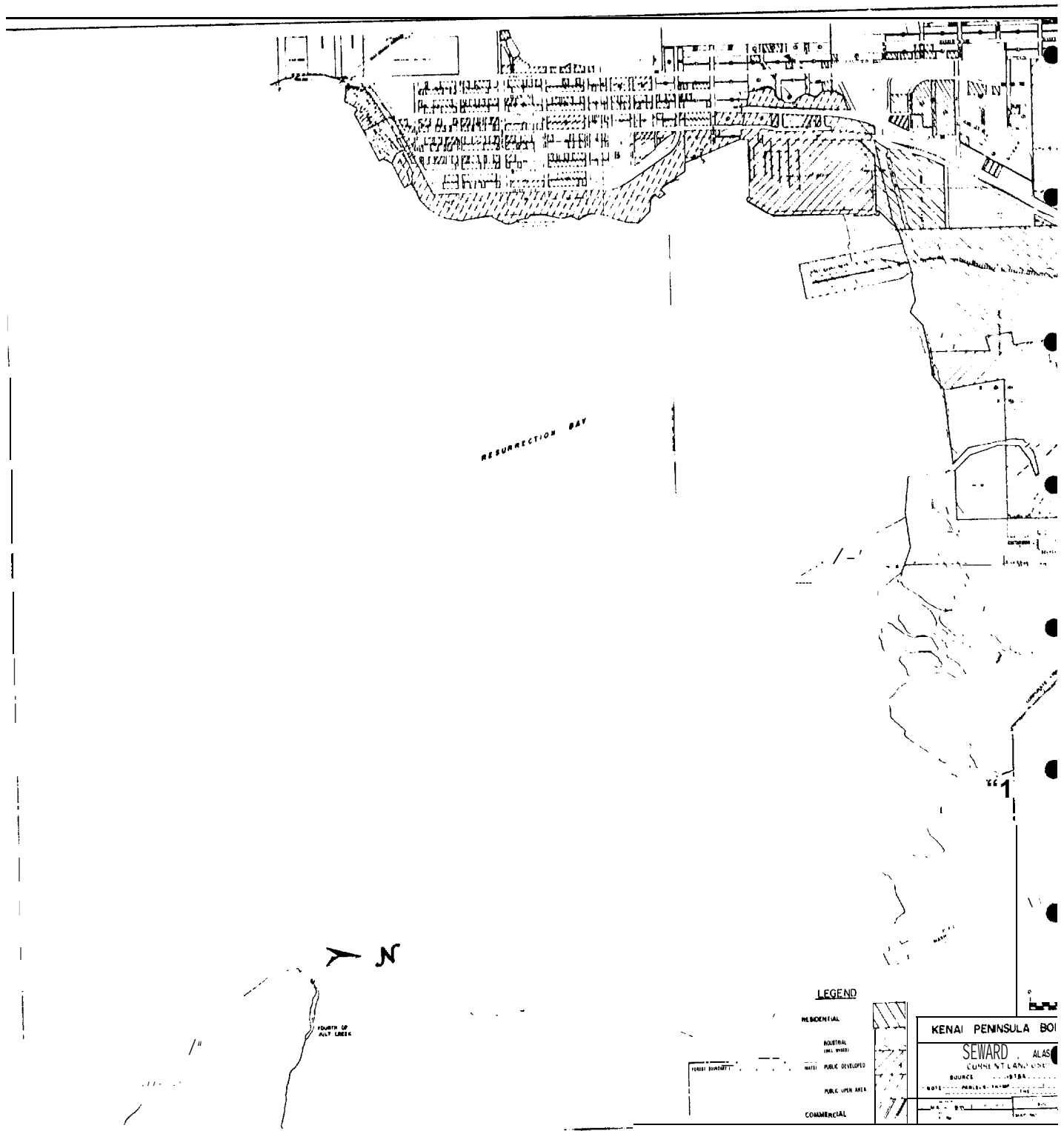
● About 60 percent of the students at the Skill Center **live in** dormitory accommodations built by students over the past few years. However, the main physical plant is old and needs **upgrading**. A total of \$2.175 million is included within a November 1978 State bond issue for renovating the old high school for Skill Center use and for renovating the old grade school currently being used by this facility. Despite these planned improvements, no significant increases in student enrollment at this facility are anticipated in the immediate future.

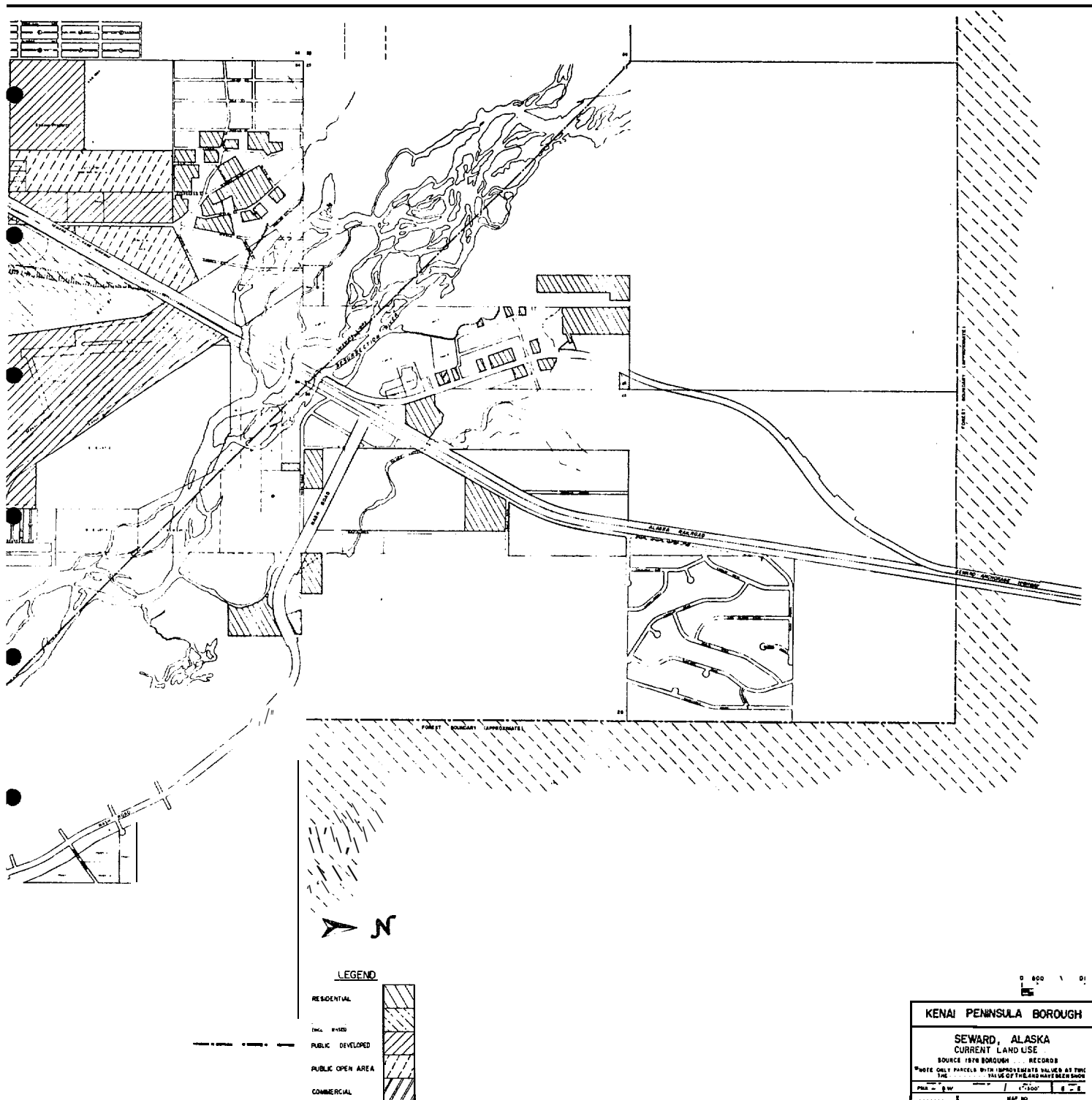
● Land Use

● OVERALL LAND USE PATTERNS

● Seward's overall land use pattern owes much to its physical setting, its past, to tectonic events associated with the 1964 earthquake and to the dependence of its industries on a waterfront location. Relief is a major inhibiting factor. The City's development is concentrated on a small alluvial fan near the head of Resurrection Bay as the use of lands elsewhere is limited by the presence of steeply rising mountains to the west and by Resurrection Bay itself to the south and east. A lagoon immediately north of the alluvial fan discouraged development in that direction for many years but is now partially filled and recent community expansion has occurred beyond this former barrier (see Figure 16).

● Seward's origins as a railroad town are still reflected in its land use pattern although to a lesser extent now than before the 1964 earthquake





Simpson, Usher, Jones, Inc. , 1978

FIGURE 16

when railroad lines extended around the entire length of the community's waterfront and when the commercial district was concentrated on Fourth Avenue near the old Alaska Railroad dock. After the earthquake, the waterfront area around the alluvial fan was deemed high risk for permanent high intensity development and was instead set aside as public open space. Most industrial reconstruction subsequently took place at the head of Resurrection Bay beyond the old lagoon area. The relocation of Seward's industries has also encouraged some drift of commercial and residential uses north of the old established area of town. However, Seward's development remains more compact than most Southcentral Alaska communities.

In 1967, the Alaska State Housing Authority (ASHA) calculated the amount of land and tideland in use within Seward's corporate limits. At that time, 3.5 hectares (8.6 acres) or 1.3 percent of all land then in use was occupied by commercial development, most of it concentrated in the traditional business district at the south end of town but with scattered commercial uses occurring as far north as D Street. A very limited amount of commercial activity was also present north of the small boat harbor adjacent to the Seward Highway. Today, this basic pattern remains unchanged but there has been an intrusion by commercial enterprises into residential areas north of the old business district and a substantial amount of commercial development has taken place in the vicinity of the small boat harbor. Additional commercial development has also occurred north of town adjacent to the Seward Highway.

In 1967, industrial and related transportation and warehousing uses occupied 119.3 hectares (294.7 acres) or 45.8 percent of the total amount of land in use within Seward's corporate limits. Almost all of this land, however, was taken up by the State airport and the federally-owned Alaska Railroad and virtually all was in or adjacent to the then new industrial area at the north end of town.

The amount of land occupied by industrial uses has increased significantly since 1967. The Seward Fisheries dock, cannery and warehousing complex consumes substantial space in the area between the small boat harbor and the Alaska Railroad dock and Dresser Industries leases land in this same area for warehousing. The Kenai Lumber Company chip plant and sawmill which used to be located at Bear Lake is now situated on the Seward waterfront just east of the Railroad dock. In addition, some warehousing has been added on the waterfront at the south end of town near the State ferry dock. Several marginal industrial concerns have also occasionally been in operation along Nash Road, but none are apparently active at the present time.

It is expected that any new industrial expansion in Seward will locate in the existing industrial area near the Railroad dock where there is still some room for expansion or in the recently annexed Fourth of July Creek area several miles south of the terminus of Nash Road. Although waterfront acreage accessible from Nash Road has been suggested as having potential for industrial expansion, much of this land is close to or within the floodplain of the Resurrection River.

Approximately 13.2 percent of Seward's total land area or 35.1 hectares (86.6 acres), was in residential use at the time of the 1967 ASHA survey. Except for two small subdivisions north of the small boat harbor, most of this was in the City core area south of D Street on small, 278.7 square meter (3,000 square foot) lots laid out in a traditional grid pattern. About one quarter of the dwellings were in multifamily units, most of which were in or near the downtown area, often above a commercial use. All remaining dwellings were in single family structures as there were no trailers within Seward's corporate limits at that time, although 6 were counted on Nash Road, portions of which have subsequently been annexed by the City.

The overall pattern of residential development within Seward today is quite different, largely as a result of expansion into the valley north of town and annexation of part of the Nash Road area. No one area of town now has a preponderance of single family or multifamily dwellings. The downtown area remains the most densely populated, but this is primarily a reflection of small lot sizes. The development of new subdivisions of suburban character north of town and on Nash Road has substantially increased the amount of land devoted to residential uses, while at the same time decreasing overall housing density.

In terms of lands needed for future residential growth in Seward, the Alaska State Housing Authority estimated in 1967 that the central portion of town could accommodate an additional 120 to 160 dwelling units and that the area between the small boat harbor and the Resurrection River

west of the Seward Highway contained approximately 121.4 hectares (300 acres) of land suitable for low density residential use. The desirability of the latter area is diminished by the fact that most of it is within the Resurrection River floodplain. However, since the total number of dwelling units in the Seward area has not changed appreciably since 1967, it is assumed that ASHA's basic assumptions about the capacity of the Seward area to accommodate residential growth remain valid.

Seward's first comprehensive development plan was prepared by the Alaska State Housing Authority in 1959. However, the 1964 earthquake, plus the formation of the Kenai Peninsula Borough and the subsequent transfer of planning powers to the larger unit of local government, made many recommendations in the original plan obsolete. A second comprehensive development plan was prepared by ASHA in 1967. This was followed by the Seward Concept Plan in 1975. More recently, the Kenai Peninsula Borough Planning Department staff prepared a series of baseline studies for incorporated cities within the Borough boundaries, including one for Seward in 1977, while a growth management strategy for the Seward region is currently being prepared by Simpson, Usher, Jones, Inc. The 1967 plan was formally adopted by the Borough in 1974. However, according to Kenai Peninsula Borough Planning Department staff, updating of the land use element of this plan is scheduled to be underway shortly so that land use recommendations can more closely reflect existing zoning.

The Kenai Peninsula Borough is actively developing a coastal management program designed to meet State regulations. According to Kenai Peninsula

Borough Planning Department staff, Phase 1 work currently underway includes population and economic development projections which will be as area specific as possible; a general land and water use plan which will include implementation strategies; and management recommendations for each identified resource area, including a listing of compatible and incompatible uses. Work on these elements was contracted out in October 1978 and is scheduled to be completed by July 1979. The Borough's entire coastal management program is scheduled for completion in 1981.

DEVELOPMENT CONSTRAINTS

The physical setting and land ownership patterns work together to inhibit the amount of land available for development in the Seward area.

Topography is a major limiting factor. Resurrection Bay occupies a deeply eroded glacial valley with steep sides rising abruptly to elevations of between 609.6 and 914.4 meters (2,000 and 3,000 feet). Development is possible only on occasional small pockets of alluvial lowland such as those on which Seward is situated.

Most of the old part of Seward is located on the alluvial fan of Lowell Creek; however, in recent years development has moved north onto the the alluvial fan of Jap Creek and the Resurrection River floodplain. The fan delta on which the town is built is approximately 2 kilometers (1.25 miles) long in a north-south direction and 800 meters (0.5 miles) wide and rises from sea level to an altitude of 39.6 meters (130 feet) at the mouth of Lowell Creek canyon. Beyond this fan delta to the west, slopes of more than 30 percent effectively prohibit urban development.

While steep submarine slopes have made Seward one of the finest deep water ports in the State, they pose a potential threat in the event of a major earthquake. During the 1964 earthquake, most of Seward's waterfront was destroyed by major submarine landslides. Ground fractures continued inland 24.3 to 30.5 meters (80 to 100 feet) making the waterfront potentially unstable in the event of another major earthquake. Following the 1964 earthquake, the affected waterfront area, extending east of Seventh Avenue to the Bay, was placed in a high risk category and zoned for open space and recreation use only. The remainder of the alluvial fan on which most of Seward is built, including the recently annexed Fourth of July Creek area, has been classified as having nominal risk for construction purposes.

Although not susceptible to submarine landslides, the alluvial fan of Jap Creek on which the newer residential area of Seward has been built, underwent conspicuous fracturing during the 1964 earthquake. The U.S. Geological Survey subsequently recommended that all foundations in this area be of reinforced concrete and all concrete and unit masonry be reinforced and interconnected. (USGS Professional Paper, 542-E)

Most undeveloped land in Seward lies in the northern end of town. However, these lands at the head of Resurrection Bay and at the mouth of the Resurrection River, are subject to both riverine and coastal flooding. River floods occur primarily in the fall and spring as a result of rapid run off during heavy rains or from heavy snow melt. A detailed study of the flooding potential of Resurrection River and Salmon Creek was prepared

by the Army Corps of Engineers in 1975 and reported in Flood Plain Information, Resurrection River and Salmon Creek, Seward, Alaska. This study found the 100 year flood to be 11.2 meters (36.7 feet) above mean sea level and determined that flood flows from the two rivers would inundate considerable land in the northern portion of the City, including the railroad yard and the airport. While the flooding potential of Jap Creek was not addressed in detail, the study does warn that flooding there could become a problem, particularly if the area is heavily developed.

Seward is subject to coastal flooding both from storm driven waves and from earthquake generated tsunamis. The wave runup of the 1964 earthquake was approximately 7.6 meters (25 feet) above mean sea level, exceeding the 500 year event. Therefore the runup from much more frequent coastal storms was used by the Corps to define the coastal high hazard zone. Both the 100 and 500 year flood plains and coastal high hazard areas are specifically delineated in the 1975 Corps report.

Public ownership of a large proportion of land in the Seward area also places limitations on the availability of buildable land. For a more detailed discussion, see the following Land Status section.

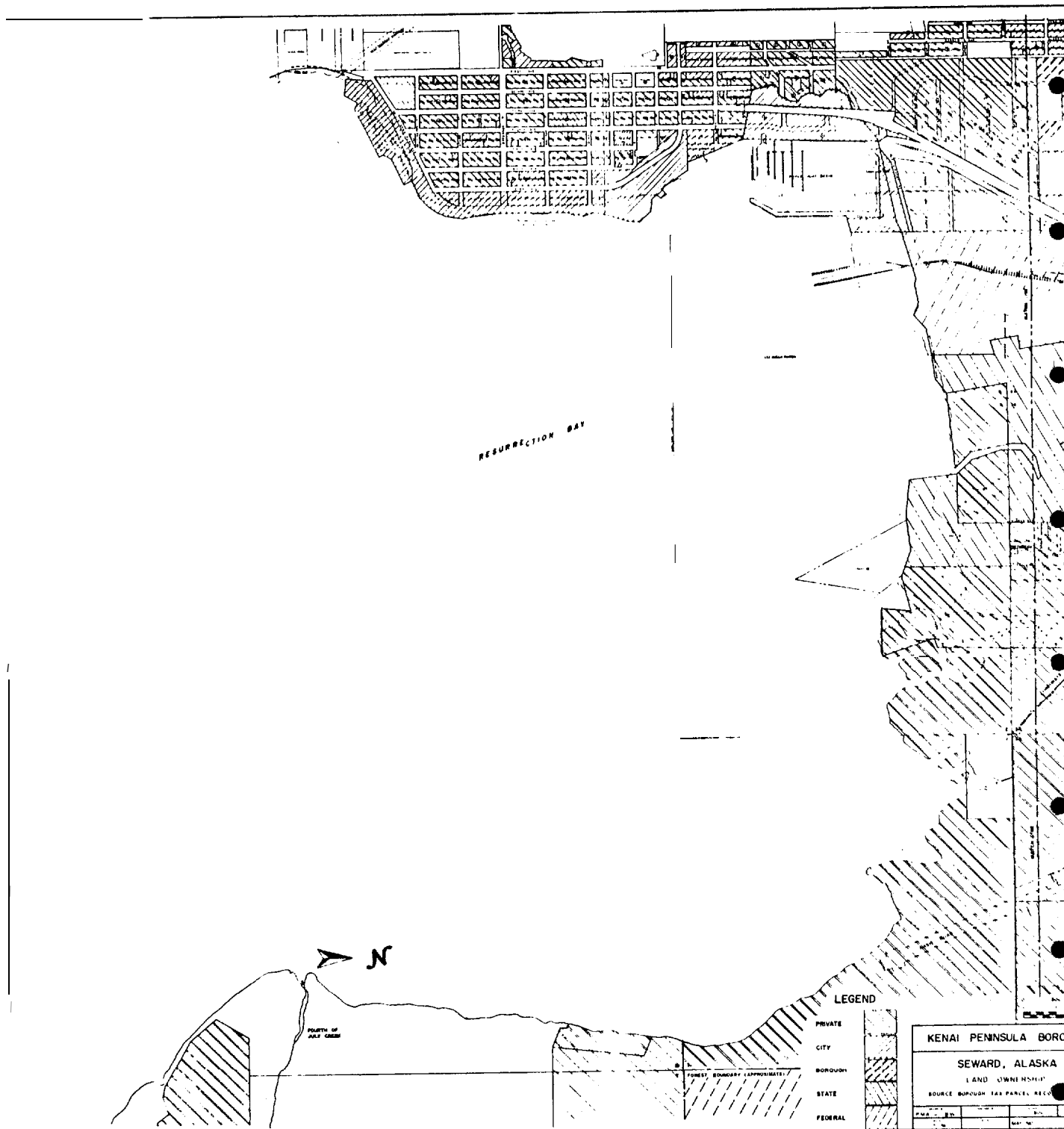
LAND STATUS

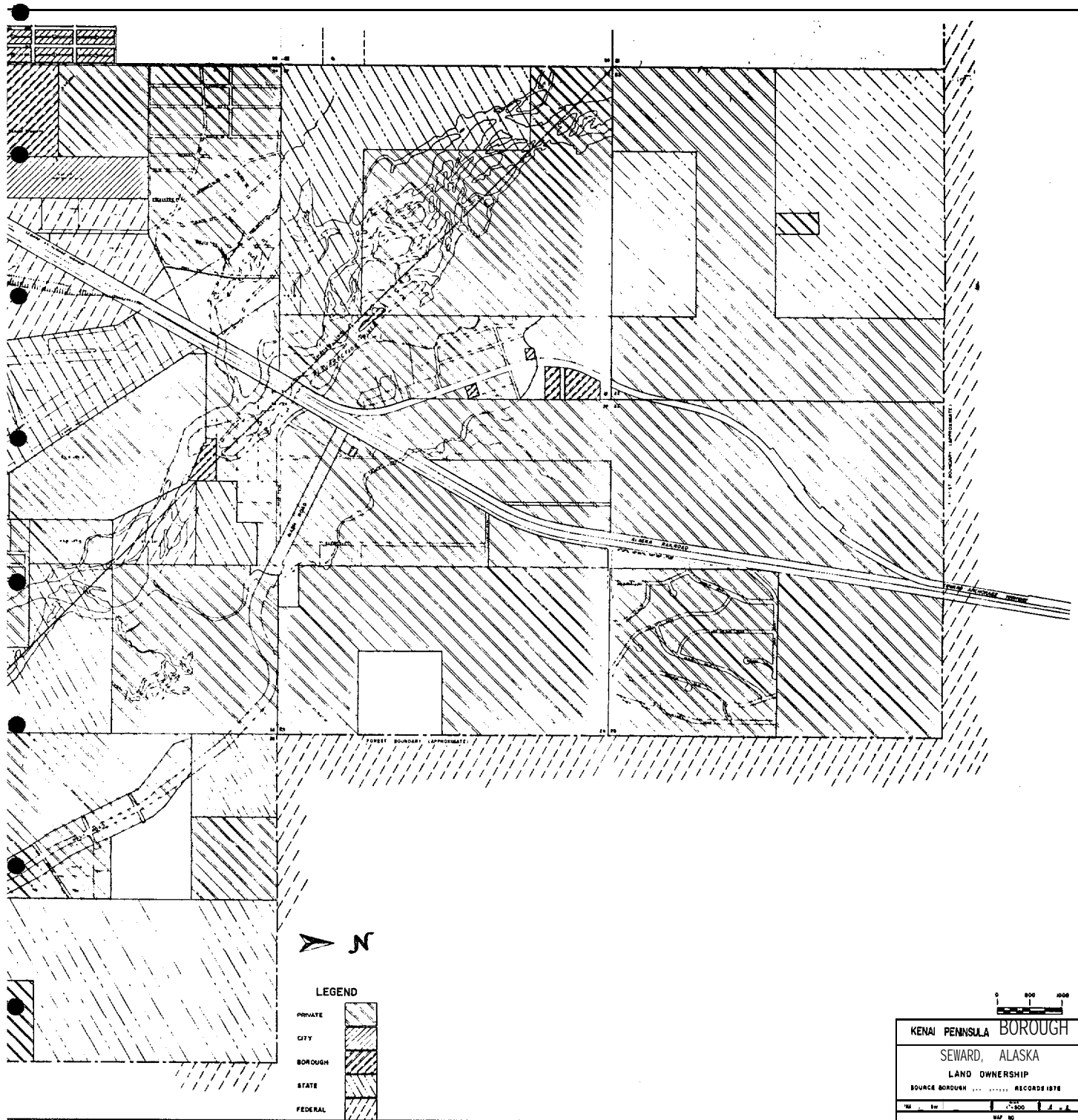
Seward is bordered on the north and the east by the Chugach National Forest, although isolated pockets of privately owned land occur along the highway between Seward and Moose Pass. Federal land managed by the

Bureau of Land Management lies west of the City, but this has been selected by the State and has been tentatively approved. The State has also received tentative approval for land selected on the east side of the Bay south of the Chugach National Forest boundary, including all land in the Fourth of July Creek area which is not already privately owned.

Under the National Forest community grant selection program, the Kena Peninsula Borough is entitled to 63,043.3 hectares (155,780 acres) of State-selected National Forest land within the Borough. As of August 1, 1978, 5,353.5 hectares (13,228.4 acres) had been patented to the Borough under this program and an additional 14,028.3 hectares (34,664 acres) had been approved but not yet patented, leaving 43,661.6 hectares (107,887.7 acres) yet to be conveyed. In the immediate vicinity of Seward, the Borough has selected some State land in the Fourth of July Creek area and approximately 3,016 hectares (7,450 acres) of State land near Bear Lake north of the City. Under this same program, the City of Seward is entitled to 97.1 hectares (240 acres) of State land. As of August 1, 1978, the City had no patented land under this program, nor were any patents pending.

Although there are no Native land claims in the vicinity of Seward, one of the D-2 proposals being considered by the U.S. Congress involves land west and south of the community which is currently managed by the Bureau of Land Management. The proposed 202,347.2 hectare (500,000 acre) Kenai Fjords National Park features a combination of mountain-flanked fjords,





Simpson, Usher, Jones, Inc. , 1978

FIGURE 17

sea arches, wildlife, and the Harding Icefield. Portions of the park are proposed to be managed as wilderness but others are planned to be developed to accommodate visitors. The park master plan calls for major development at the periphery of the park to be served by mass transit of an appropriate type for the terrain, such as an aerial tramway. The plan also calls for a transit route (presumably road access) to connect Seward to the ice field at Exit Glacier and, in addition, a marine service facility and lodge to be located at Pilot Harbor in Nuka Bay at the southern boundary of the proposed park. The plan envisions the establishment of a joint National Forest Service/National Park Service tourist center in the City, but anticipates that other tourist facilities in Seward will be provided by the private sector.

Within Seward's corporate limits, privately owned land predominates although a good portion of the community's prime industrial land is in the public domain (see Figure 17). The City owns waterfront land from the south end of town north to and including the small boat harbor. The federal government in the form of the Alaska Railroad also owns a substantial portion of waterfront property at the head of the Bay, and its right-of-way extends inland to the Seward Highway and north through the National Forest. The remainder of the waterfront property, most of which lies in the Resurrection River floodplain, is in private and State ownership. A large share of the uplands is in private hands.

HOUSING

According to the Anchorage Urban Observatory (1977), most housing in Seward is in single family units. Of a total of 781 occupied housing units counted in 1976, almost two-thirds (497 units) were in single family homes, with slightly over one-quarter (212 units) in multi family structures and less than 5 percent (36 units) in mobile homes (see Table 66). Another 36 units were on boats or in rooms. The Urban Observatory also observed that Seward had a relatively high vacancy rate (4.3 percent or 35 units) for a small Alaska town. However, most vacant units are old structures in poor condition and, for practical purposes, the vacancy rate for standard housing in Seward can be considered nonexistent.

Seward has a higher proportion of housing in single family units than Cordova but a much lower proportion in mobile homes. Compared with other Kenai Peninsula communities surveyed by the Urban Observatory (Kenai, Soldotna, Homer, and Seldovia), however, a relatively high proportion of Seward's housing is in multi family units. The largest multi family unit in Seward is the 36-unit Bayside Apartments where rents for 28 units are supplemented under Section 236 (9 units) and Section 8 (19 units) of the Housing and Urban Development Act of 1974. A 30-unit complex of Section 8 (elderly) housing is scheduled to be developed by the Alaska State Housing Authority in 1979 near the hospital.

TABLE 66
HOUSING COMPOSITION
SEWARD, ALASKA
1976

<u>Type of Unit</u>	<u>Number</u>	<u>Percent of Total</u>
Single Family	497	63.6
Multi family	212	27.2
Mobile Home	36	4.6
Other <u>a/</u>	36	4.6
<u>TOTAL</u>	781	<u>100.0</u>

a/ Includes boats and rooms.

Source: Bureau of Management and Urban Affairs and Anchorage Urban Observatory. 1977. A Profile of Five Kenai Peninsula Towns. Soldotna.

TABLE 67
HOME OWNERSHIP CHARACTERISTICS
SEWARD, ALASKA
1970 and 1976

<u>Type of Occupancy</u>	<u>1970</u>		<u>1976</u>		<u>Percent Distribution Change 1970-1976</u>
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	
Owner Occupied	274	55.9	395	50.6	- 9.5
Renter Occupied	216	44.1	368	47.1	6.8
Other <u>a/</u>			18	2.3	
<u>TOTAL</u>	490	<u>100.0</u>	<u>781</u>	<u>100.0</u>	<u>59.4</u>

a/ Includes people living in rent-free accommodations.

Source: Bureau of Management and Urban Affairs and Anchorage Urban Observatory. 1977. A Profile of Five Kenai Peninsula Towns. Soldotna.

Slightly over half (50.6 percent) of Seward's housing units were found by the Urban Observatory to be owner occupied in 1976, with the remainder being either occupied by renters (47.1 percent) or people living in rent-free accommodations (see Table 67). The proportion of owner occupancy in Seward is lower than in the four other towns surveyed by the Urban Observatory because Seward has a higher proportion of multi family units.

According to the 1970 Census, Seward had an average of 3.2 persons per household, slightly below the Statewide average of 3.42 persons at that time. Anchorage Urban Observatory 1976 data indicate that household sizes in this community declined sharply after 1970 as it found the mean number of persons per household here to be only 2.8. This decline is part of a national trend toward smaller family sizes and also reflects the fact that Seward's population contains a high proportion of older people. The number of persons per household in 1978 is estimated to be an even lower 2.6, using 1978 Census data, as amended, and dividing that figure by the number of housing units counted in Seward in 1976 by the Anchorage Urban Observatory.

According to the Anchorage Urban Observatory, a substantial portion of Seward's housing stock is old and in need of repair. In 1976, 50.6 percent of the units in the Urban Observatory's 85-unit sample were found to be in either "average, need of repair" or "poor" condition. Only 14.1 percent of the units surveyed were judged to be in "excellent, well cared for" condition. It should be noted, however, that these were

subjective judgments made by people who were not necessarily qualified in this area.

By contrast, a field inventory of Seward's housing conducted by Simpson, Usher, Jones in 1977 indicates a much smaller proportion of units in need of major repair. Simpson, Usher, Jones indicated that when conventional criteria used to judge housing condition such as foundation cracks, missing windows, sagging porches and other structural defects were applied, only about 5 percent of the housing units were in need of major structural repair to an extent where they were near condemnation. An additional 5 percent were judged to have less serious structural defects but to still require major repairs. However, many other units were found to require "cosmetic" attention which, if not corrected in the near future could result in major repairs being necessary.

Although a number of Seward's homes are old, overall the housing units here are of average size. In 1970, the U.S. Census found the median number of rooms per housing unit in Seward to be 4.1, the same as the 1970 Statewide median and only slightly less than the State urban housing median of 4.3 rooms per unit in the same year. Reflecting the construction of larger, new housing units in Seward between 1970 and 1976, the median number of rooms per occupied housing unit has now risen slightly. In 1976, the Urban Observatory found Seward to have a median of 4.3 rooms per housing unit.

Housing costs in Seward are exceptionally low. According to the Urban Observatory, the typical Seward household paid an average of only \$143.00 per month in rent or mortgage payments in 1976. This contrasted with an average of \$282.00 in Soldotna and \$285.00 in Kenai during the same year. In more than one-quarter of the units sampled in Seward (26.3 percent), the occupants made no monthly housing payments at all and, in an additional 68.7 percent, the occupants paid less than \$300.00 per month. That housing costs in Seward are low is probably an indication of the high proportion of older people here who have nearly or completely paid off their mortgages. It is also indicative of the age of Seward's housing stock when compared with other Kenai Peninsula towns. For example, both Kenai and Soldotna are fast growing communities which have a high proportion of new housing units. In these communities, few households had mortgage or rent payments of under \$200.00 per month in 1976.

Community Facilities and Services

PUBLIC SAFETY

Police Protection

The Seward Police Department is housed on the first floor of the State Court and City Hall building on the corner of Fifth and Adams Streets. The station has a general office, a waiting room, a dispatch office and an office for the police chief. A State trooper and his secretary are

located on the second floor of the building next to the Magistrate's office.

The Police Department is staffed by nine police officers, five dispatchers, three jailers, a dog catcher and a secretary associated with the Department's driver education program. The Seward harbor master also possesses full police powers. City police powers extend to Seward's corporate limits with areas beyond handled by State troopers. In addition to a State trooper and secretary stationed in Seward, three other troopers assigned to the eastern Kenai Peninsula are available to Seward for backup.

The Seward jail, located in the basement of the City Hall, contains two 3.05 meter by 2.44 meter (10 foot by 8 foot) maximum security cells for men, two similar cells for women and a 5.64 meter by 3.2 meter (8.5 foot by 10.5 foot) detoxification tank. Temporary space for four to six juveniles depends upon occupancy of the women's cells. Police equipment includes four late model patrol cars, video equipment for detecting intoxicated drivers, and cameras for investigative work. In addition, the harbor master is provided with a pickup truck. A central communications system installed in early 1978 connects the police department with the fire department, Seward General Hospital and the State Department of Public Safety communication system.

Both the police station and the jail were constructed in 1965 and are considered adequate for Seward's current needs. No additions or major renovations are anticipated in the near future.

Although there are few serious crimes committed in Seward, alcohol related offenses are considered to be a problem. During 1977 there were approximately 560 arrests by the Seward police, the majority involving assault and battery, disorderly conduct or minor consumption problems. Crimes of this type increase during the summer with the influx of large numbers of seasonal laborers connected with the fishing industry. The number of arrests has increased over the past several years (264 arrests in 1974 to 560 arrests in 1977), but the increase of certain types of crime has decreased. Arrests for burglary decreased from 47 in 1974 to 40 in 1976 (15 percent) and during this same period arrests for Part I offenses which include such major crimes as murder, arson, robbery, rape, and aggravated assault decreased from 308 to 192 (38 percent). Juvenile crime, which according to local officials has been a problem in the past, has been reduced in recent years through the imposition of a curfew.

Fire Protection

The Seward Volunteer Fire Department is housed in a concrete building centrally located in the city core area adjacent to the business district and provides fire protection services throughout the City. Service to outlying areas is provided from the Bear Creek fire service area station at mile 5.5 on the Seward Highway.

The Seward fire station was constructed in 1964 and, according to the fire chief, is considered to be in good condition and to have a remaining

useful life of about 10 years. Aside from space for fire trucks and related equipment, the fire station houses office space, two apartments (one of which is for the fire chief), plus a water control and alarm system. The basement of the station houses the civil defense headquarters and an emergency generating unit. The station was upgraded in 1978 with the addition of a new roof and insulation for a total cost of \$38,000.

The fire department is manned by 30 volunteer firemen plus a salaried fire chief who also serves as the municipal building inspector. Firefighting equipment, most of which was acquired shortly after the 1964 earthquake, consists of two 1965 American-LaFrance pumper trucks each with a 4,542 liter (1,200 gallon) capacity, a 1964 panel truck for hauling equipment, and a 1976 pickup truck. Twenty-four hour per day dispatch service is also provided.

Seward has a good fire rating for a small city with a volunteer fire department. The city has an Insurance Services Office (ISO) rating of 5, based on a scale of 1 (best) to 10 (worst). Like most other Alaska communities, Seward has experienced serious fires in the past. However, there has been no loss of life by fire since 1966 when four people were killed in a house fire. Nevertheless, the potential for a serious fire remains, particularly in the old section of town where many residential lots are only 9.1 meters (30 feet) wide and where businesses are housed in closely spaced wooden structures.

Currently, the Seward fire department does not have equipment capable of reaching heights above 10.7 meters (35 feet) or three stories. According to ISO regulations, unless it acquires a ladder truck, the City will lose its present rating if there are more than five 3-story buildings in town. Seward already has three **buildings** in this class and the City hopes to acquire a truck equipped with a longer ladder in the next several years. The expansion of the City's water system, presently underway, will also upgrade Seward's **firefighting** capabilities.

HEALTH AND SOCIAL SERVICES

Most health and social services in the Seward area are provided by private groups. Health facilities include the 33 bed Seward General Hospital, a nonprofit corporation; the privately operated Seward Medical Clinic adjacent to the hospital; and the Wesleyan **Nursing** Home, which serves long-term chronic disease, geriatric and psychiatric patients from around the State. In addition, the Seward area has a council on community services which sponsors an **integrated** mental health and alcohol program funded primarily with **grants** from the State Division of Mental Health. Patients requiring hospitalization for mental health problems are referred to the Alaska Psychiatric Institute in Anchorage.

Seward General Hospital

The Seward General Hospital was built in 1958 and is a City-owned facility with 33 beds, 29 of which are for general hospital care and 4

are for maternity patients. This hospital serves Seward and the surrounding area as far north as Cooper Landing, approximately 80.5 kilometers (50 miles) from Seward. Beyond Cooper Landing, patients are hospitalized in Soldotna or Anchorage.

In addition to patient beds, the Seward hospital includes surgical facilities, a delivery room, an emergency room, an outpatient clinic, an X-ray department and a laboratory. Emergency transportation service to and from the hospital is provided by two ambulances, one a recent model and the other approximately fifteen years old. Ambulances are driven by the Volunteer Ambulance Corps. Emergency evacuation service to Anchorage is also available.

The medical/dental staff associated with the hospital are private practitioners in Seward, including a doctor who specializes in family practice and class II surgery and who is assisted at various times by medical students. Two dentists who practice general dentistry also use this facility. The doctor has offices in a clinic next to and owned by the hospital while the dentists have a private office. In addition, two radiologists, one from Soldotna and the other from Anchorage, visit the hospital twice monthly and are available for reading X-rays by mail on an emergency basis. An optometrist from Anchorage visits the hospital once a month, and an Anchorage pathologist is available to the hospital on a consulting basis.

The hospital's professional staff includes 8 registered nurses, a licensed practical nurse, 3 to 4 nurses' aides, 3 technicians, 2 medical records personnel and the hospital administrator. An additional 10 or 11 persons perform kitchen, laundry, janitorial, maintenance and clerical functions.

According to Seward General Hospital statistics, a total of 1,901 inpatient days were logged at the hospital during fiscal year 1976, with the length of stay of patients averaging 4.1 days. The hospital occupancy rate of 15.73 percent in 1976 was well below the 1976 national average of 60 percent for hospitals in the 25 to 49 bed category (see Table 68). Although number of patient days and average length of stay figures are not available for fiscal years 1977 and 1978, hospital admissions from January to June 1978 were 13.2 percent less than during these same months in 1977.

While patient days, average length of stay and hospital occupancy have all decreased since 1970 (see Table 69), the use of outpatient services administered by the hospital increased markedly during this period.

Outpatient emergency room visits increased 53 percent between 1970 and 1976 while the number of outpatient X-ray procedures and outpatient laboratory procedures rose 115 and 334 percent respectively during the same period.

According to the administrator, the hospital's physical plant is in excellent condition and has a remaining useful life of 15 years. However,

TABLE 68

SEWARD GENERAL HOSPITAL INPATIENT LOAD
FY 1970 - FY 1976

<u>SERVICE</u>	<u>FY 70</u>	<u>FY 71</u>	<u>FY 72</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>% CHANGE</u>
Patient Days	4,624	4,523	3,724	2,878	2,289	2,252	1,901	- 59
Average Length of Stay	6.82	7.11	5.84	4.42	4.46	4.42	4.21	- 38
Percent Occupancy	38.38	37.55	30.83	19.75	19.00	18.69	15.73	N/A

Source: Seward General Hospital.

TABLE 69

SEWARD GENERAL HOSPITAL PATIENT SERVICES
FY 1970 - FY 1976

SERVICE	OUTPATIENT							% CHANGE
	<u>FY70</u>	<u>FY 71</u>	<u>FY 72</u>	<u>FY 73</u>	<u>FY 74</u>	FY 75	FY 76	
Emergency Room Visits	752	976	958	1,075	1,067	1,101	1,154	53
Laboratory Procedures	1,781	2,937	4,038	5,306	6,138	8,645	7,736	334
X-Ray Procedures	999	1,283	1,448	1,497	1,990	1,948	2,151	115
Subtotal	3,532	5,196	6,444	7,878	9,195	11,694	11,041	213
<hr/>								
	INPATIENT							
Emergency Room Visits	241	287	347	226	231	257	205	- 15
Laboratory Procedures	4,277	5,153	6,121	5,010	5,876	5,567	4,780	12
X-Ray Procedures	714	667	912	672	711	806	618	- 13
Subtotal	5,232	6,107	7,380	5,908	6,818	6,630	5,603	7
<u>TOTAL</u>	<u>8,764</u>	<u>11,303</u>	<u>13,824</u>	<u>13,786</u>	<u>16,013</u>	<u>18,324</u>	<u>16,644</u>	90

Source: Seward General Hospital.

continuing replacement of hospital equipment is required, such as X-ray equipment replaced in 1978 for a cost of \$92,000 and another \$350,000 in equipment scheduled to be replaced in the next five years.

Mental health and alcoholism are considered to be the two most serious community health problems in Seward. According to the hospital's administrator, these two areas accounted for well over 100 patient cases in 1976. Specific separate counseling clinics to deal with these problems are planned, and State and federal funds for their operation have been applied for.

Seward General has sufficient beds to accommodate the needs of about double the area's present population if the average length of patient stay does not increase or, decline significantly. Space for X-ray, emergency room and laboratory facilities, however, is inadequate to meet existing demands and cannot accommodate significant population growth.

Seward Medical Clinic

The Seward Medical Clinic is operated by Dr. John Grey in space adjacent , to and rented from the General Hospital. The clinic has four consulting rooms plus an office and is staffed by a doctor, a registered nurse and three office workers, with two medical students added during the summer months when patient loads are heaviest. The clinic is used for consulting and simple medical procedures only; all laboratory and X-ray work are performed at the hospital outpatient clinic next door. The service area

of the clinic is the same as that of the General Hospital, that is, the Seward area as far north as Cooper Landing. Over the past five years, the clinic has treated an average of about 35 patients a day, although this figure is generally lower during the winter months.

The clinic was constructed in the early 1960's and is in good physical condition, although office space is severely limited. The clinic operator has asked the hospital to construct an addition to the facility, but the request has thus far been refused.

Wesleyan Nursing Home

The Wesleyan Nursing Home is located adjacent to the Seward General Hospital and is operated by the Board of Global Ministries of the United Methodist Church which is headquartered in New York City. This 64-bed facility accommodates long-term chronic disease, psychiatric and geriatric patients referred to the home from around the State. Roughly two-thirds of its patients are Alaska Natives,

The Wesleyan Nursing Home has no resident physicians but relies instead on scheduled weekly visits by the local Seward physician who is also on call for emergencies. An Anchorage psychiatrist visits the home monthly.

The Home has a 28 person professional staff, including an administrator, 5 registered nurses (one of whom works part-time), 2 licensed practical nurses, 17 nurse aides, and 3 orderlies. An additional 13 to 14 persons are employed in janitorial, housekeeping, laundry and cooking functions.

For emergency transportation, the home uses the two Seward General Hospital ambulances and the Volunteer Ambulance Corps.

The Nursing Home building dates back to 1952, but a major addition was constructed in 1972. A dining room and office area were added in 1977 and the kitchen was entirely remodeled in the summer of 1978. According to the Home's administrator, the facility is in good condition and has a remaining useful life of about 40 years. The Home's facilities are considered adequate to accommodate present demand and no additional improvements are currently planned.

EDUCATION

Elementary and secondary education services in Seward are provided by the Kenai Peninsula Borough School District headquartered in Soldotna. The School District is responsible for the hiring of teachers and maintenance of the school plants while the Borough is responsible for the construction of new school facilities, as required. Seward schoolchildren are presently housed in separate elementary and secondary schools on a 32.4 hectare (80 acre) site at the northwest end of town near the Clearview and City Acres subdivisions, both growing residential areas. The elementary school (grades K through 8) was constructed in 1969 and refurbished with new paint, carpeting and landscaping in the summer of 1978. The heating system was also completely overhauled at that time. The new Seward high school was ready for occupancy in the fall of 1978. Both buildings are in excellent condition and have a remaining useful life of at least 30 years.

The elementary school includes 20 general and 2 special education classrooms, a gym, a library, a teachers' lounge and a storage area. The new high school complex has 10 general classrooms, 1 special education classroom and 3 vocational education classrooms, plus an extensive athletic complex containing a gym, **swimming** pool, a wrestling/gymnastics area and a handball court. There is also a 166-person capacity lunchroom and an auditorium which can seat 300. In addition, the high school has a library, teachers' lounge and 3 storage rooms. Together the two school plants cover approximately 2 hectares (5 acres) of the 32.4 hectare (80 acre) school site. The **remaining** land includes a playground for young children, and an athletic area with a football field, tennis courts, a track and a softball diamond for older students. Undeveloped land is used for environmental studies programs.

The public school system's professional staff includes a superintendent and 17 elementary school teachers assisted by a 'teacher aide and a tutor. Sixteen teachers and a superintendent are employed at the high school. Three culinary workers and 7 to 8 janitors serve both the elementary and high schools.

Besides regular academic courses, a number of special programs are available to Seward students. Title I and Title IV federal funds provide individualized instruction in mathematics, reading and language. Special instruction is also available for gifted students and for those with learning disabilities. The community school program held at the school during **nonschool** hours offers a wide variety of recreational

TABLE 70

ENROLLMENT TRENDS
SEWARD SCHOOL SYSTEM
1959/60 - 1977/78

School Year	Final Enrollment				Total
	Grades K - 8 a/		Grades 9 - 12		
	Number	% of Total	Number	% of Total	
1959/60	461	77.6	133	22.4	594
1960/61	451	79.3	118	20.7	569
1961/62	471	77.6	136	22.4	607
1962/63	452	75.1	150	24.9	602
1963/64	466	74.4	160	25.6	626
1964/65	4a7	74.6	166	25.4	653
1965/66	441	70.7	183	29.3	624
1966/67	408	70.8	168	29.2	576
1967/68	398	71.1	162	28.9	560
1968/69	399	71.0	163	29.0	562
1969/70	413	71.7	163	28.3	576
1970/71	434	69.7	189	30.3	623
1971/72	442	69.6	193	30.4	635
1972/73	394	66.2	201	33.8	595
1973/74	367	64.7	200	35.3	567
1974/75	337	63.0	198	37.0	535
1975/76	331	63.7	189	36.3	520
1976/77	298	62.5	179	37.5	477
1977/78	304	63.3	176	36.7	480

a/ Elementary school enrollment includes kindergarten classes beginning 1963/64.

Source: Alaska Department of Education, Kenai Peninsula Borough School District. Soldotna.

TABLE 71

SEWARD SCHOOL ENROLLMENT PROJECTIONS
1978/79 - 1980/81

Year	Elementary	High School	Total
1978/79	292	194	486
1979/80	288	195	483
1980/81	293	184	477
1981/82	309	159	468

Source: Galleher, P.G. and F. McIlhargey. 1977. Enrollment Projections and School Construction Report. Kenai Peninsula Borough. Soldotna.

courses, the content of which depends upon demand and instructor availability.

Final enrollment in the Seward school system in 1977-78 was 480 students, a 24 percent decline from the 1971-72 enrollment of 635 and a 26 percent decline from the peak year of 1964-65 which saw a final enrollment of 653 (see Table 70). Declining school enrollments have been experienced in many school districts around the State in recent years, primarily reflecting declining birthrates, a nationwide phenomenon. According to school district officials in Seward, the average number of students per room in the elementary grades (K through 8) currently averages about 23 and is slightly lower in the high school where there are about 20 students per room.

Enrollment projections for Seward schools through 1981-82 anticipate further declines in total school enrollment, although elementary school population is forecast to increase slightly during this period (see Table 71). With a current elementary school capacity of 500 students and a high school capacity of 300, however, Seward should not require any additional school facilities in the foreseeable future.

Kenai Peninsula Community College

Kenai Peninsula Community College offers a variety of courses in Seward under contract to the Borough School District and the Seward Skill Center. The objective of the program is to offer one "core" course each

semester which can be transferred within the community college system throughout the State. Additional courses are those which are of interest locally. Classes are held in the evenings and on Saturdays at the elementary and high schools and at the Skill Center and for the most part are taught by local instructors. The instructor for the "core" course, however, is a member of the Kenai Peninsula Community College faculty in Kenai.

Seward Skill Center

The Seward Skill Center is a State Department of Education facility which operates with a combination of State and federal funds and private industry donations and contributions. This is Alaska's only local in-house training center for adults and offers courses in the building trades, food service, office work, mechanics, and in oil field technology and other areas. The Center serves students from around the State and its programs are designed to respond to the needs of the State's economy.

RECREATION

As an important tourist and recreation center for Southcentral Alaska, Seward has a wide variety of recreation facilities available to its residents. Although many of these have been designed primarily to meet tourist rather than local recreation demands, they also provide an important local recreation resource.

Facilities provided by the City for purely local use are limited. These consist of two baseball fields south of the small boat harbor, a small outdoor skating rink next to the fire station which is maintained by the fire chief and tennis courts in the Forest Acres subdivision. In addition, the City operates a 25-unit **camping** area within its corporate limits just off the Seward Highway adjacent to the military recreation center. Two other areas, neither of which is improved, provide **parking space** for a large number of recreational vehicles. The first is located behind the small boat harbor and the second is on City waterfront property adjacent to 7th Avenue.

While facilities are limited, recreation activities sponsored by the Recreation Department are varied. Under the administration of a **full-time** director and seasonal assistant, the City sponsors extremely popular summer softball and winter volleyball and basketball programs. The library is the site for a twice weekly preschool recreation program. In addition, the City offers a number of hiking, camping and cross country skiing trips in the nearby **Chugach** National Forest for various age groups.

As in most **small** Alaskan cities, the public schools in Seward are a focal point for community recreation activity **during nonschool** hours. City volleyball and basketball programs are held in the elementary and high school gyms and classrooms are used for the community schools program. The opening of the new high school in the fall of 1978 has added a significant dimension to Seward's range of recreation activities.

Swimming is expected to be a popular addition to the school system's recreation program and it is anticipated that the facility will be heavily used by adults as well. The 200-seat auditorium incorporated in the new school plant will also be available for community entertainment purposes.

School grounds provide additional community recreation facilities. The elementary school playground, equipped with swings and seesaw equipment, supplements the small downtown tot lot maintained by the Junior Chamber of Commerce. Playing fields and tennis courts associated with the high school serve recreation needs of teenagers and adults.

Aside from public recreation facilities, Seward has a number of privately owned attractions. The Liberty Theatre shows movies six nights a week and the 4-lane Dreamland Bowling Alley is open nightly. The Arcade and the Dinghy both offer refreshments and pinball-type games which are popular with local teenagers, while a number of bars offer music and dancing or pool tables which cater to adult recreation needs. In addition, both the Elks and American Legion offer recreation activities for their members.

Besides formal recreation facilities, the Seward area offers a wide variety of outdoor recreation experiences. During the summer months, the small boat harbor serves as a take off point to Resurrection Bay's superb recreational boating and fishing resources. Charter boats offering sightseeing trips are also berthed here. Popular local picnicking spots

along the shore are the City-owned property along 7th Avenue and waterfront areas accessible by car from Nash and Lowell Point Roads while other picnicking spots on Resurrection Bay are accessible only by boat. In addition, the Chugach National Forest offers a wealth of both summer and winter recreation opportunities for Seward residents.

Seward is heavily used as a recreational boating center by other Southcentral Alaska residents, primarily from the Anchorage area. During the summer months, Seward's hotels, motels and camping facilities are filled to capacity during the weekends and average 50 to 60 percent filled on weekdays. Additional camping facilities are considered essential.

The City has identified a site on the 7th Avenue waterfront for this purpose and has applied for grant funds for the project through the Coastal Energy Impact Program. The area selected has been zoned public and, since the earthquake, has served as a recreation area for overnight camping and fishing. To make the area a recreational facility which is both efficient and attractive, a number of improvements are needed. These include landscaping, the development of access roads, camper parking areas, the construction of sewer and water lines and associated rest stations, and fishing piers.

The Seward small boat harbor also operates far beyond capacity and substantial additional berthing space for both recreational and commercial boats is urgently needed. Although originally constructed to accommodate

550 boats, approximately 1,300 vessels were registered in the harbor in the summer of 1978 and well over 300 boats were on the waiting list at that time, most of them pleasure craft. The addition of a new float in the spring of 1978 has alleviated the congestion to some extent, but the current crowded situation cannot be completely eliminated without the construction of additional facilities. The Army Corps of Engineers is currently conducting a study on this subject.

UTILITIES

Water

The availability of good quality water in quantities adequate to meet residential and industrial needs is essential in all communities.

Seward currently derives its water supply from four Fort Raymond wells which yield a combined total of 13,247.5 liters (3,500 gallons) per minute seasonally, four wells in Lowell Canyon with a combined flow of from 1,514 to 2,271 liters (400 to 600 gallons) per minute; and a surface supply from Marathon Mountain which supplies 3,028 liters (800 gallons) per minute seasonally. All water is chlorinated and water from the Marathon surface supply is also given coarse screening. Storage consists of two tanks in the Lowell Canyon area, one with a 832,700 liter (220,000 gallon) capacity and the second, constructed in 1977, capable of holding 1,514,000 liters (400,000 gallons).

The water distribution system follows Seward's gridiron street pattern with long lines running through the community along each north-south street and cross lateral ties wherever they were considered appropriate (see Figure 18). The system was extensively repaired by the Corps of Engineers following the 1964 earthquake and now serves the downtown area, the industrial area around the railroad dock and portions of residential areas at the north end of town. As of August 1978, there were 720 hookups to the system.

In a comprehensive water system plan developed for Seward in 1975, Arctic Environmental Engineers (AEE) indicated that water usage had not changed significantly in Seward since 1969 (see Table 72). However, AEE identified a number of serious deficiencies in the City's water system. According to AEE, almost 88 percent of the water distribution system and a majority of the service connections were vulnerable to seasonal freeze-up because of shallow burial. To avoid freeze-up, water has to be kept running in houses and at system bleeder points during cold weather. Consequently, although per capita domestic consumption was found to average around 454.2 liters (120 gallons) per day, normal community use is often higher in the winter because water is left running to prevent lines from freezing.

AEE further found that Seward's water volume and storage capacity was inadequate for future fire protection purposes and indicated that if Seward was to retain or improve its current ISO fire rating in the future, additional water volume and storage capacity would be required

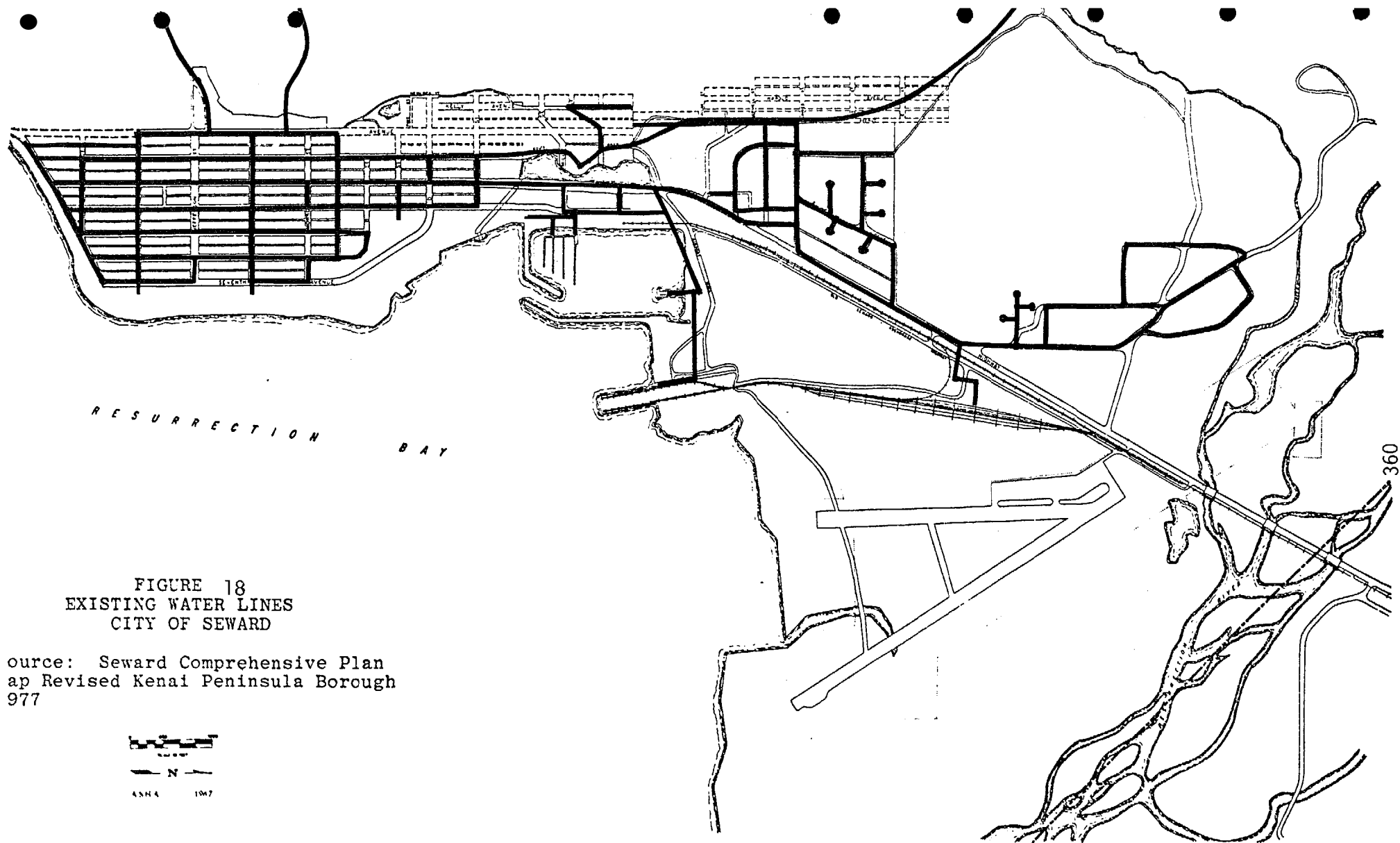


FIGURE 18
EXISTING WATER LINES
CITY OF SEWARD

Source: Seward Comprehensive Plan
Map Revised Kenai Peninsula Borough
1977

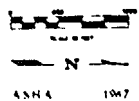


TABLE 72

AVERAGE DAILY WATER USE FOR SELECTED MONTHS a/
 SEWARD, ALASKA
 1969 - 1974
 (gal l ons)

<u>MONTH</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
January	n/a	938,322	1,699,200	1,712,903	2,382,270	1,848,744
February	1,440,000	842,143	2,687,828	1,836,000	2,370,278	1,454,492
July	1,150,000	1,152,400	1,152,400	1,700,000	1,921,371	1,785,032

a/ Multiply by 3.785 to obtain liters.

Source: Arctic Environmental Engineers. January 1975. City of Seward Comprehensive Water System Plan.

(see Table 73). Finally, AEE found some of Seward's water supply to be seasonally unreliable and of inferior quality. This is particularly true of the surface supply from Marathon Mountain which flows at 3,028 liters (800 gallons) per minute during the summer but as low as 567.8 liters (150 gallons) per minute during the winter. The surface supply also tends to pick up spruce needles, silt and other forest debris. The Lowell Canyon wells are also considered to be seasonally unreliable as their aquifer is shallow and permeable and susceptible to freezing during the winter.

The Comprehensive Water System Plan has been adopted by the City. Ordinances have been established governing the construction of all new water and sewer lines to eliminate freezing problems and metering has been required for all commercial and industrial water users. In addition, Seward has embarked on the four-stage improvement program recommended in the Plan. Stage 1 of the program which addressed immediate and near-term system requirements has already been implemented. Stage 1 improvements included the construction of an additional 1,514,000 liters (400,000 gallons) of storage at Lowell Canyon, the development of a new well, well housing and chlorination system at Fort Raymond, development of a new well and distribution system to serve the Jesse Lee Heights subdivision, and the construction of a new pressure pump station.

Stage 2 involves the construction of a new well system at Jap Creek and the addition of 3,028,000 liters (800,000 gallons) of storage at this location, a new connection from Jap Creek to Bear Drive, the completion

TABLE 73

PROJECTED WATER DEMAND AND STORAGE REQUIREMENTS
SEWARD, ALASKA
1975 - 1995

Demand Class	1975		1980		1985		1990		1995	
	(lpm)	(gpm)	(lpm)	(gpm)	(lpm)	(gpm)	(lpm)	(gpm)	(lpm)	(gpm)
Domestic Use	662	175	984	260	1,647	435	2,290	605	2,952	780
Coincident Demand	189	50	189	50	189	50	189	50	189	50
Fire Flow	5,678	1,500	6,624	1,750	8,516	2,250	9,936	2,625	10,882	2,875
363 TOTAL SUMMER a/	<u>6,529</u>	<u>1,725</u>	<u>7,797</u>	<u>2,060</u>	<u>10,352</u>	<u>2,735</u>	<u>12,415</u>	<u>3,280</u>	<u>14,023</u>	<u>3,705</u>
Freeze Up Protection b/	2,650	700	2,650	700	2,271	600	1,514	400	757	200
TOTAL WINTER	<u>9,179</u>	<u>2,425</u>	<u>10,447</u>	<u>2,760</u>	<u>12,623</u>	<u>3,335</u>	<u>13,929</u>	<u>3,680</u>	<u>14,780</u>	<u>3,905</u>
Storage	1,892,500	500,000	2,838,750	750,000	4,731,250	1,250,000	5,961,375	1,575,000	5,772,125	1,525,000

a/ The (500 to 700 gpm) demand of Seward Fisheries is not included because it is less than fire flow requirements and the industry can be expected to stop this use in the event of a catastrophic fire.

b/ Reduced demand reflects corrective action.

Source: Arctic Environmental Engineers. City of Seward Comprehensive Water System Plan. January 1975.

TABLE 74

WATER SOURCES AND STORAGE CAPACITIES AT
COMPLETION OF STAGE 2 IMPROVEMENTS
SEWARD, ALASKA

<u>Source</u>	<u>Summer Flow</u>		<u>Winter Flow</u>		<u>Storage</u>	
	(lpm)	(gpm)	(lpm)	(gpm)	liters	gallons
Fort Raymond No. 1	2,498	660	2,498	660		
No. 2	1,419	375	1,419	375		
No. 3	1,798	475	1,798	475		
No. 4	7,570	2,000	7,570	2,000		
Jap Creek	11,355	3,000	3,785	1,000	3,028,000	800,000
Lowell Canyon	5,678	1,500	3,785	1,000	2,271,000	600,000
<u>TOTAL</u>	<u>30,318</u>	<u>8,010</u>	<u>20,855</u>	<u>5,510</u>	<u>5,299,000</u>	<u>1,400,000</u>

Source: Brogan, M.A., and I.D. Waits. 1977. OCS Development: A Blessing or a Headache? The Choice is Seward's. Kenai Peninsula Borough, Planning Department, Soldotna.

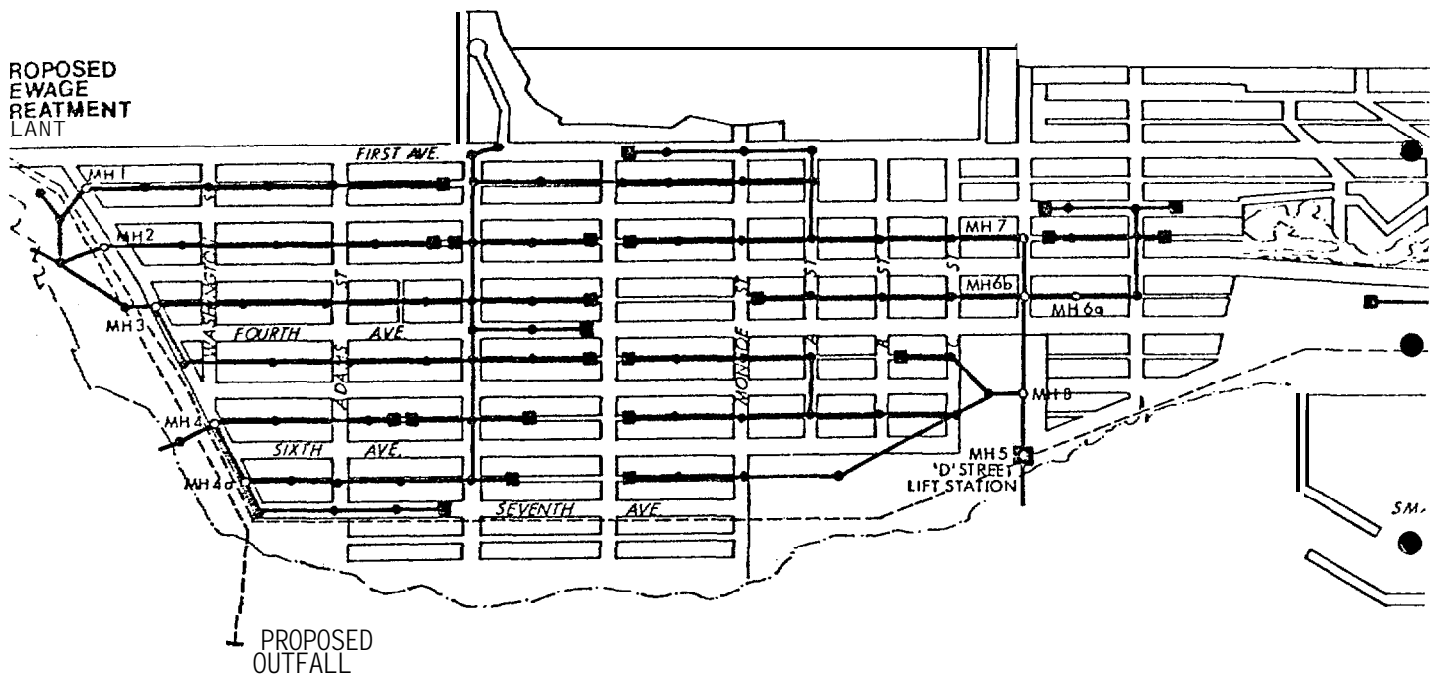
of a loop from Bear Drive to Van Buren Street, the construction of a new connection from Fort Raymond to Forest Acres and the development of a new well system in the Lowell Canyon area. Following the completion of Stage 2 improvements, Seward will have a summer water flow of 30,317.9 liters (8,010 gallons) per minute, a winter flow of 20,855.4 liters (5,510 gallons) per minute and a 5,299,000 liter (1,400,000 gallon) storage capacity which **should** be sufficient to meet fire protection requirements for a population of 10,000 and any foreseeable industrial demands (see Table 74).

Recommendations contained in Stages 3 and 4 address Seward's long range needs and are intended to be undertaken as funding is available. These include tying in the industrial area with a high volume loop, tying in the Forest Acres with the Jap Creek supply, and **constructing** a main loop closure along Railroad Avenue from 7th Avenue to the small boat harbor.

Sewage Collection and Disposal

The City-operated sewer system serves about 90 percent of the populated area within Seward's corporate limits (see Figure 19). According to AEE, there are currently about 600 hookups to the system. Not served are portions of outlying subdivisions, the airport, the Louisiana Pacific plant and the Fourth of July Creek area annexed by the City in 1977. Seward has no storm sewers except along the State-maintained highway system.

PROPOSED
SEWAGE
TREATMENT
PLANT

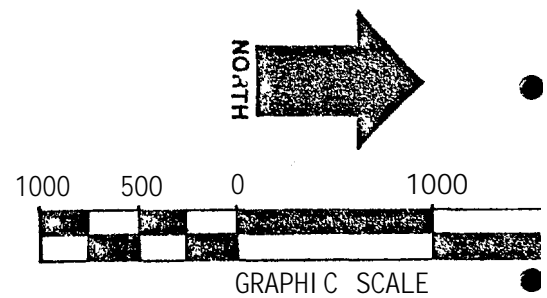


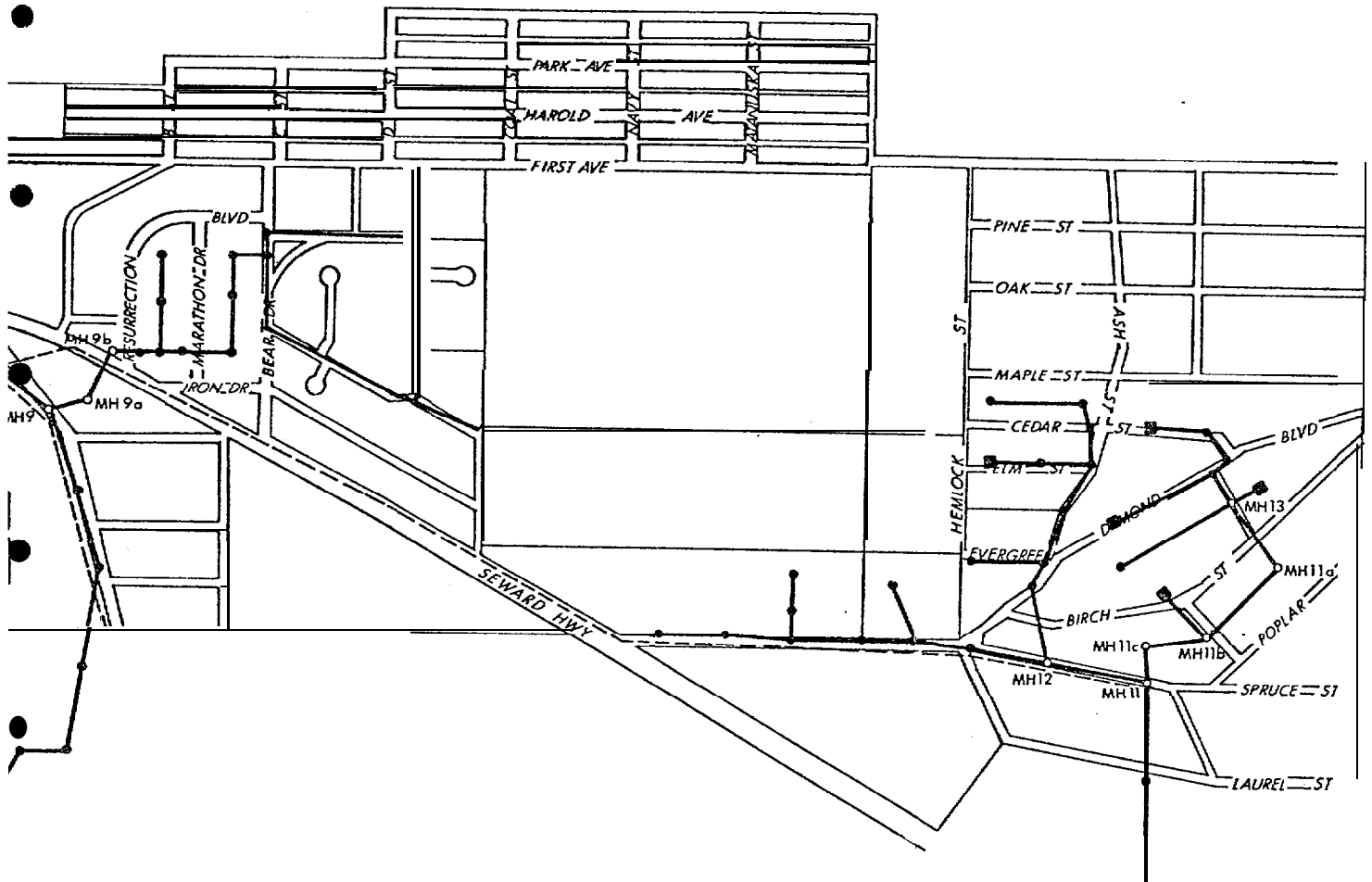
RESURRECTION BAY

LEGEND

	EXISTING SANITARY SEWER LINE
	CLEAN OUT
	MANHOLE
	METERED MANHOLE
	LIFT STATION
	PROPOSED INTERCEPTOR

Simpson, Usher, Jones, Inc. , 1978





SEWARD AND VICINITY SEWARD, ALASKA EXISTING SANITARY SEWER

FIGURE 19

Although the existing sewage collection system is adequately sized for current usage, the system as a whole has several serious deficiencies. Untreated wastewater is presently discharged directly into Resurrection Bay from four outfalls contrary to State and federal law which requires that cities of Seward's size provide wastewater treatment facilities. Furthermore, wastewater flow studies conducted by AEE in 1975 determined that a substantial portion (approximately 646.9 kiloliters or 170,900 gallons per day) of the total volume of wastewater in 1975 (an average daily flow of 1,845 kiloliters or 487,500 gallons) resulted from inflow and infiltration. Inflow water enters the system during cold weather when water faucets are left running. Infiltration occurs primarily during the summer when ground and surface water seep into the system through leaky manholes, faulty joints and abandoned sewer lines.

Using an average daily wastewater flow of about 473.1 liters (125 gallons) per capita for domestic sources, Seward's present population should generate about 925.4 kiloliters (244,500 gallons) of wastewater per day. Including allowances for inflow and infiltration and non-fisheries commercial wastes, estimated by AEE in 1975 to average a combined total of about 991.3 kiloliters (261,900 gallons) per day, total daily flows through a wastewater plant in Seward should average about 1,917 kiloliters (506,400 gallons). AEE further estimated that peak domestic flows were currently about four times the average flow.

AEE's 1975 comprehensive wastewater facility plan for Seward was designed to examine a number of alternative wastewater systems which would meet

federal and State treatment requirements and also satisfy anticipated future demands. Until late 1977, federal law required that a city of Seward's size construct a secondary sewage treatment facility, however, recent amendments to the Federal Water Pollution Control Act allow elimination of secondary treatment if detailed study and analysis prove that no environmental damage would occur without the secondary treatment. The primary treatment plant proposed for construction by Seward anticipates approval of a waiver from the requirement to construct a secondary treatment facility.

The proposed project involves the construction of interceptor sewers which will tie in the four existing sewered areas of town, pump stations and force mains to deliver sewage to an aerated lagoon equipped with effluent filtration located at Lowell Point approximately 3.2 kilometers (2 miles) south of the City. Treated, filtered, **unchlorinated** effluent will then be discharged through a submerged outfall into the Bay. The capacity of the **lagoon** is based on a projected population of 5,000 in 1985; however, the capacity of the lagoon could be doubled **through** the addition of an activated **biofilter** pretreatment unit. If no major development occurs, the 5,000 person capacity should be adequate until 1997, the normal 20 year **design** life for treatment works. The pumps for the pump stations are designed for this same population and a flow of 3,785,000 **liters** (1 million gallons) per day, a high per capita flow which includes "freeze protection" which cannot be removed from the system cost effectively. The interceptor sewers, force mains and the outfall are designed for a saturation population density of 20,000. The

estimated cost for the project is \$6.3 million, approximately 75 percent of which is eligible for Environmental Protection Agency funding. The remainder, primarily land acquisition, will be financed with State and local funds.

Electricity

The City of Seward purchases power from Chugach Electric and also has standby diesel generating capacity of its own. Chugach Electric service is provided to Seward, the surrounding area and out as far as Mile 25 on the Seward Highway at Lawing where it enters the system. The peak and firm power capacities of this power source are approximately 3,400 and 2,600 kilowatts respectively. The City also owns two 1,500 kilowatt and one 2,500 kilowatt diesel generators, with a combined peak power capacity of 5,500 kilowatts, for emergency and supplementary purposes. Although peak power consumption in Seward has increased roughly 40 percent since 1970 (from 2,376 kilowatts in 1970 to 3,400 kilowatts in 1978 or from 1.5 to 1.7 kw per capita), it has remained relatively stable during the past five years. Nevertheless, during periods of peak newer consumption, particularly during the summer when the Louisiana Pacific mill and Seward Fisheries are in operation, the Seward system operates at peak capacity and is subject to severe voltage drops. At these times, use of the standby generators is necessary to keep voltage fluctuations within acceptable standards. Additional problems are presented by the Moose Pass to Seward transmission line as its present capacity is barely adequate to respond to existing demand and, because of its age, it is also subject to power loss.

In 1976, Seward contracted with R. W. Beck and Associates to analyze its existing power system and to prepare a plan for correcting the system's deficiencies and to meet future power demands. Beck and Associates forecast that peak power demands would grow at a modest rate from 3,000 kilowatts in 1975-76 to 6,375 kilowatts in 1984-85. The City is currently taking steps to carry out the recommendations of this plan. With funds from the Coastal Energy Impact Program, the City contracted with an engineering firm in May 1978 to undertake the planning and engineering design work necessary to modernize the existing transmission and distribution system from Lawing, the point where the City purchases power from Chugach, to and throughout Seward.

It is anticipated that a substation will be constructed at Lawing during the summer of 1979 to boost the voltage from the current 24.9 kilovolts to 69 kilovolts. Also during the summer of 1979, a substation will be built in Seward to step down the 69 kilovolts to 7.2 kilovolts for distribution. A study scheduled for completion in January 1979 will determine the feasibility of developing a low-head hydro generation plant in Lowell Canyon. If such a project is deemed feasible, it is anticipated that the first unit to be brought on line will have a 500 kilowatt capacity. When these and other system improvements are completed in 1984, the Seward power system will have a peak power capacity of approximately 10,000 kilowatts, more than sufficient capacity to accommodate the peak power demand projected by Beck and Associates for that year.

Solid Waste Disposal

The City of Seward assumed responsibility for garbage collection in 1960, but the City currently subcontracts the service to Seward Services. Residential collection is once per week, while commercial customers are served as required from one to six times a week. Residential rates are \$6.25 per month. Commercial rates vary depending upon the frequency of service and the amount of garbage collected. Equipment used by the contractor includes a 1968 compactor-type truck and a 1964 front-end loader. The City of Seward considers the level of service provided to be adequate.

The 64.8 hectare (160 acre) Seward landfill has been the responsibility of the Kenai Peninsula Borough since 1974 and is located at the northern edge of the City, bounded on the north by the Resurrection River and on the south by the outfall of Jap Creek. The area is susceptible to direct runoff from steep mountain slopes to the west. About 40 percent of the area or 25.92 hectares (60 acres) is considered appropriate for landfill purposes, with the remainder consisting of steep mountain sides or stream bed.

Before the Kenai Peninsula Borough assumed responsibility for the landfill, near surface water tables during breakup and extended periods of heavy rainfall caused problems. However, since 1974, extensive ditching on the western and northern boundaries has reduced the water table level significantly. Operation of the landfill is presently contracted by the

Borough to Metco Landfill, Inc. for an annual fee of \$20,000. The present method of operation involves trenching, dumping, compacting and backfilling with about 0.6 meters (2 feet) of cover material.

Approximately one-third of the available landfill has already been consumed, leaving about 16.2 hectares (40 acres) for future operations. At the current annual consumption rate of 0.6 hectares (1.5 acres), the expected life of the site is another 20 years. According to Kenai Peninsula Borough Public Works Department personnel, two problems remain with the existing landfill: high water tables restrict burial depth, and the site is located within the 100 year floodplain of the Resurrection River. However, the Borough believes that construction of a dike would eliminate potential flooding dangers and satisfy Environmental Protection Agency landfill criteria.

Communications

Telephone service in Seward has been provided by the General Telephone Company of Alaska since 1962. The service area includes Seward and its environs and extends north to Moose Pass. Moose Pass service is provided from a separate exchange constructed in 1975. As of August 1978, the system included 1,500 stations, approximately 1,000 main stations and 500 extensions. Assuming that the average number of people per household in the area outside Seward is approximately the same as in town, the Seward service area currently averages slightly more than one telephone per dwelling unit.

The number of stations varies seasonally, however, the average annual growth in recent years has been from 10 to 15 percent. With a capacity of from 1,500 to 3,000 stations in Seward and 100 to 300 stations in Moose Pass, the system is capable of accommodating significant growth. General Telephone personnel consider the the system to be in excellent condition and estimate its remaining useful life at 30 years.

Twenty-six trunk lines connect the Seward telephone system to the outside world. Although these currently operate at near capacity during normal working hours, expansion of the system could be accomplished by purchasing space on the RCA microwave network and installing additional terminal facilities.

Local Government Organization

Seward was incorporated as a city on June 1, 1912. Today, Seward is a home rule city with a council-manager form of government where the manager directs the day to day operations of the city with policy direction from the mayor and the council. The council consists of six councilmen and a mayor elected at large.

CITY POWERS

As a home rule city under Alaska law which is within a second class borough, Seward has all legislative powers not prohibited by law or charter except for those mandated to or subsequently assumed by the Kenai Peninsula Borough.

The Kenai Peninsula Borough is a second class local government unit which takes in a 66,304 square kilometer (25,600 square mile) area and which, in addition to Seward, also includes the cities of Homer, Kenai, Seldovia, Soldotna and Kachemak plus a number of unincorporated settlements. The Borough has three mandatory areawide powers as per AS 29.33. These are assessment and collection of taxes, education, and planning, platting and zoning. In addition to these mandatory powers, the Kenai Peninsula Borough has assumed responsibility for solid waste disposal on an areawide basis. It has also formed a number of special service districts, including the Bear Creek fire service district immediately outside Seward.

The City of Seward has assumed a wide range of powers as provided for in Chapter 48 of Title 29 of the Alaska Statutes. However, excluding those provided by the Kenai Peninsula Borough, several local facilities and services are provided by other units of government or by private companies. The Seward General Hospital is owned by the City but is operated by private practitioners, the City purchases its electric power requirements from Chugach Electric and maintains only standby generators locally for use in emergencies, while telephone service in Seward is provided by the General Telephone Company of Alaska. In addition, Seward's main commercial dock is owned by the Alaska Railroad (although the State ferry system uses a City-owned facility) and the community airport is operated and maintained by the State.

LOCAL GOVERNMENT FINANCES

Seward's most recent audit was reviewed, as were operating revenue sources for the Kenai Peninsula Borough school district. In addition, data developed by the State Assessor on the subjects of property valuation, local tax rates and per capita debt were analyzed.

A review of the full value of property, as determined by the State Assessor (Alaska Taxable), within Seward's corporate limits and the Kenai Peninsula Borough boundaries from 1969 through 1977 was undertaken (see Table 75). According to the State Assessor's records, the full value of property in Seward increased by just under 200 percent during this period. Between 1969 and 1970, property values in the community actually declined slightly and little growth took place in the following two years beyond that which could be accounted for by inflation. The 1972/73 to 1975/76 period generally saw more rapid growth in property values but rates of growth again fell off between 1976 and 1977. Overall, increases in property valuation at Seward during the 1969 to 1977 period were slightly below those experienced by Homer (203.3 percent) and Soldotna (225.3 percent) but were well ahead of Kenai (113.8 percent) and Seldovia (164.8 percent). By contrast, the Kenai Peninsula Borough as a whole experienced a much more substantial 370.4 percent increase in property valuation between 1969 and 1977, with by far the greatest proportion of this increase occurring in areas outside the various incorporated cities within the Borough.

TABLE 75

CITY OF SEWARD AND KENAI PENINSULA BOROUGH
 COMPARISON OF FULL VALUE DETERMINATION
 1969 - 1977
 (in \$000's to nearest \$1,000)

	1969	1970	1971	1972	1973	1974	1975	1976	1977
City of Seward	\$ 9,428	\$ 9,225	\$10,121	\$11,154	\$14,155	\$17,053	\$18,275	\$25,300	\$ 28,170
Total Kenai Peninsula Borough	\$263,447	\$283,514	\$273,370	\$272,688	\$508,208	\$583,958	\$728,775	\$908,583	\$1,239,193 -

Source: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance.
 Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau.
 (Annual Report).

Under Alaska law, first class and home rule municipalities may levy property taxes of up to 30 mills although this millage rate may be exceeded if it is applied to debt service. In addition, both first and second class municipalities may levy sales taxes of up to 3 percent, while there is no limitation placed on sales tax levies by home rule municipalities. Cities of any class within organized boroughs may also have higher sales tax rates if overlapping units of government both levy sales taxes.

A review of local and areawide property millage and sales tax rates applicable to Seward since the 1972/73 fiscal year (see Table 76), and a comparison of these rates with those of other Alaska municipalities indicates that Seward residents have consistently paid the highest property taxes of any community in the State. Property tax rates have remained constant at 25 mills (20 by the City and 5 by the Kenai Peninsula Borough) since 1972/73 except for 1977/78 when a slight drop in the City mill levy resulted in a 23 mill combined levy applicable to property within Seward's corporate boundaries. During the current fiscal year, some additional tax relief for Seward residents has been afforded by a further drop in the City mill levy to 13.5 mills but local property taxes remain very high.

Seward has no local sales tax but the Kenai Peninsula Borough levies an areawide 2 percent sales tax (3 percent before 1976/77) which applies to all sales in Seward. However, Seward has a much lower sales tax than cities such as Kenai and Homer which each levy a 4 percent local sales tax in addition to the Boroughwide 2 percent levy.

TABLE 76

CITY OF SEWARD AND KENAI PENINSULA BOROUGH
PROPERTY AND SALES TAX RATES
1972/73 - 1977/78

	Property Tax (mills)					
	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78
City	20.00	20.00	20.00	20.00	20.00	18000
Borough	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
<u>TOTAL</u>	<u>25.00</u>	<u>25.00</u>	<u>25.00</u>	<u>25.00</u>	<u>25.00</u>	<u>23.00</u>
	Borough Sales Tax (percent)					
	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78
TOTAL	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>2.00</u>	<u>2.00</u>

Source: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

An analysis of Seward's general fund revenues and expenditures for the fiscal year ended June 30, 1977 was undertaken (see Table 77). A very high proportion of Seward's general fund revenues is derived from local sources. Total general fund revenues for FY 1977 amounted to \$1,451,735. Of this, the greatest amount (34.9 percent of the total) was derived from property taxes, followed by miscellaneous local revenues (28.4 percent), intergovernmental revenues (23 percent) and harbor revenues (13.7 percent).

A share of intergovernmental revenues, such as business license and liquor license refunds and raw fish taxes can be said to be locally generated revenue. However, excluding these revenues, slightly over three-quarters of Seward's general fund revenues in FY 1977 were locally collected. After property taxes, the largest single source of local revenue was derived from the rental of boat slips in the Seward small boat harbor, while the largest source of intergovernmental revenues was provided by Comprehensive Employment and Training Act (CETA) funds.

Although Seward's general government revenues are primarily derived from locally generated funds, this is not the case with education services provided by the Kenai Peninsula Borough. According to figures provided by the Alaska Department of Education (see Table 78), approximately 68 percent of total operating revenue sources for the Borough school system in FY 1977 came from State sources, compared with about 30 percent from local (i.e. Borough) revenues. In large part, this heavy State share results from the level of support provided by the State under the

TABLE 77

GENERAL FUND
STATEMENT OF REVENUES AND EXPENDITURES
CITY OF SEWARD
YEAR ENDED JUNE 30, 1977

	Budgeted Revenue	Actual Revenue	Actual Over (Under)
<u>Revenues</u>			
Property taxes	\$ 494,603	\$ 506,089	\$11,486
Revenue from State of Alaska:			
Alaska shared revenue	71,796	78,575	6,779
Business licenses	17,000	29,193	12,193
Liquor licenses	13,000	12,800	(200)
Raw fish tax	7,500	21,220	13,720
Amusement licenses	1,000	2,203	1,203
	<u>110,296</u>	<u>143,991</u>	<u>33,695</u>
Revenue from federal sources:			
Federal shared revenue	37,016	53,327	16,311
Anti-recession funds	9,157	13,510	4,353
Comprehensive Employment and Training Act	136,000	122,885	(13,115)
	<u>182,173</u>	<u>189,722</u>	<u>7,549</u>
Revenue from local sources:			
Licenses and permits	6,250	18,700	12,450
Rents and leases	27,000	52,302	25,302
Campground fees	2,500	6,902	4,402
Drivers' education		5,390	5,390
Fines and bails	10,000	14,815	4,815
Impound fees	1,750	2,402	652
Interfund payments in lieu of taxes	15,000	15,000	
Interest earned	20,000	77,995	57,995
Interest on surplus property sales	100	8,372	8,272
Property sales		15,321	15,321
Motor vehicle license commission	5,000	5,754	754
Garbage contract	11,000	13,910	2,910
Prisoner care	12,400	33,000	20,600
Rental of municipal property	22,500	16,668	(5,832)
ARR surveillance	7,200	5,400	(1,800)
Interfund charges for services	94,293	93,823	(470)
Hotel/motel tax	10,000	7,810	(2,190)
Jesse Lee interest	500	869	369
Miscellaneous	1,500	18,270	16,770
	<u>246,993</u>	<u>412,703</u>	<u>165,710</u>
Harbor -			
City clock	7,000	5,936	(1,064)
Slip rentals	150,000	153,222	3,222
Boat lift fees	15,000	25,798	10,798
Miscellaneous	15,000	14,274	(726)
	<u>187,000</u>	<u>199,230</u>	<u>12,230</u>
<u>TOTAL REVENUES</u>	<u>\$1,221,065</u>	<u>\$1,451,735</u>	<u>\$230,670</u>

TABLE 77
continued

GENERAL FUND
STATEMENT OF REVENUES AND EXPENDITURES
CITY OF SEWARD
YEAR ENDED JUNE 30, 1977

	<u>Appropriations</u>	<u>Actual</u>	<u>Actual Over (Under)</u>
<u>Expenditures</u>			
Council	\$ 57,491	\$ 60,830	\$ 3,339
Office supplies	17,115	14,991	(2,124)
City Manager	81,479	86,870	5,391
City Engineer	51,263	43,775	(7,488)
Clerk/Treasurer	52,800	51,185	(1,615)
Finance	80,213	75,449	(4,764)
Police Department	288,650	321,964	33,314
Fire Department	46,069	49,326	3,257
Street Department	195,757	189,332	(6,425)
City Shop	42,193	45,969	3,776
Health, Education, Welfare	22,800	18,985	(3,815)
General Services	81,377	78,841	(2,536)
Municipal building	41,444	40,404	(1,040)
Boat Harbor	118,173	118,590	417
Debt service	153,358	153,638	280
Insurance reserve	24,883		(24,883)
Youth employment		979	979
	<u>\$1,355,065</u>	<u>\$1,351,128</u>	<u>\$ (3,937)</u>
Fund balance, beginning of year		\$ 351,367	
Prior period adjustments		(30,186)	
		<u>321,181</u>	
Revenues		<u>1,451,735</u>	
		<u>1,772,916</u>	
Expenditures		<u>(1,351,128)</u>	
Fund balance, end of year		<u>\$ 421,788</u>	

Source: Price Waterhouse and co. August 1977. City of Seward,
Financial Statements and Supplementary Information, June 30,
1977. Anchorage.

TABLE 78

OPERATING REVENUE SOURCES
KENAI PENINSULA BOROUGH SCHOOL DISTRICT
FY 1976 AND FY 1977

<u>Year</u>	<u>Local</u>		<u>State</u>		<u>Federal</u>		<u>Other</u>		<u>Total</u>
	dollars	%	dollars	%	dollars	%	dollars	%	dollars
1975-76	\$3,249,835	24.6	\$9,635,421	72.8	\$342,802	2.6	\$3,000	0.02	\$13,231,058
1976-77	\$5,004,797	30.3	\$11,239,254	68.1	\$269,666	1.6	---	---	\$16,513,717

Source: Alaska Department of Education. 1977. Education in Alaska 1976-1977, Report to the People. Juneau,

foundation program as State law provides that State aid under this program shall constitute at least 97 percent of a local school district's "basic need". However, basic need is derived from a State formula for minimum educational requirements and, in practice, most Alaska school districts expend a higher proportion of locally generated funds for basic school support. In addition, many school districts receive federal revenues under P.L. 874, where funds are allocated depending on the number of children whose parents live or work on federal property, but this was not a factor in the Kenai Peninsula Borough in 1976/77.

A look at Seward's general fund expenditures for the year ended June 30, 1977 indicates that by far the greatest expenditures were recorded for the police department which expended a total of \$321,964 in FY 1977. This was followed by the street department, debt service and the boat harbor. The fact that close to 25 percent of Seward's FY 1977 general government expenditures were for police protection is a reflection of the financial burden which relatively small Alaska cities face in providing a full range of law enforcement services for their citizens and visitors.

A review of Seward's overall financial condition indicates that the City's financial position is basically sound but, in order to maintain this position, Seward has had to resort to levying extremely high property taxes. According to the State Assessor's records (see Table 79), this community's \$12,361 per capita property valuation is below that of other Alaska cities of a similar size (for example, Cordova's was \$13,735 and

TABLE 79

INDICATORS OF FINANCIAL CONDITION a/
CITY OF SEWARD, ALASKA
1977

Population <u>b/</u>	2,279
Full Value Determination	\$28,170,267
Full Value Per Capita	\$ 12,361
General Obligation Debt	\$1,489,000
Total Debt <u>c/</u>	.\$ 2,019,969
Per Capita Debt	
General Obligation	\$ 653
Total	\$ 886
Debt as Percent of Full Value	
General Obligation	5.29%
Total	7.17%

Guidelines for Per Capita Debt

Direct	\$ 618.48	
Overall	\$ 733.93	
Percent of Full Value <u>d/</u>		5.50%

a/ All fiscal data for Seward current as of 7/1/77.

b/ Population estimate as of 7/1/77 accepted by the Alaska Department of Community and Regional Affairs for municipal revenue sharing purposes.

c/ Total debt equals Seward's **G.O.** bonded debt plus a pro-rated share (\$530,969) of the **Kenai** peninsula Borough's **G.O.** bonded debt based on the City of Seward's accounting for 2.3 percent of the Borough's 1977 full value determination. Not included is \$668,000 in City Revenue Bonds outstanding as of 7/1/77.

d/ Median value for selected places of under 10,000 population used by Moody's Investors Services, Inc.

Sources: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

Price, Waterhouse & Company. June 30, 1977. City of **Seward** Financial Statements and Supplementary Information. Anchorage.

Alaska Consultants, Inc. September 1978. City of **Yakutat** Capital Improvements and Services Program. Anchorage.

Petersburg's was \$16,015 in 1977), and the local taxation burden to provide a comparable **range** of local government services is therefore greater.

In addition **to** the **high** local taxes paid **by** Seward residents, the community's current level of bonded indebtedness is such that it has only a limited capacity for additional assumption of general bonded debt. As of June 30, 1977, the City of Seward had an outstanding general obligation bonded indebtedness of \$1,489,000, accounting for a per capita debt of \$653 or **5.29** percent of total property valuation.

However, since Seward is within the Kenai Peninsula Borough and since property in the City is taxed by that areawide unit of local government, Seward is also indirectly responsible for a share of the Borough's bonded indebtedness. Using a pro-rated share of the Kenai Peninsula Borough's general bonded debt based on the City of Seward's accounting for 2.3 percent of the Borough's 1977 full value determination, a \$530,969 indirect debt has been added to the City's general bonded debt to arrive at a total debt of \$2,019,969. This total debt figure translates into a per capita debt of \$886 or 7.17 percent of total property valuation within the community which is above the \$795 average for Alaska cities in 1977 and significantly exceeds the guidelines used by Moody's Investor's Services. For a schedule of debt service requirements for Seward's direct general bonded debt, see Table 80.

TABLE 80

CITY OF SEWARD
GENERAL BONDED DEBT
SCHEDULE OF FUTURE DEBT SERVICE REQUIREMENTS
JUNE 30, 1977

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total Requirement</u>
1978	\$ 53,000	\$ 98,393	\$ 151,393
1979	60,000	95,112	155,112
1980	60,000	91,370	151,370
1981	66,000	87,613	153,613
1982	66,000	83,438	49,438
1983	72,000	79,244	51,244
1984	73,000	74,632	47,632
1985	80,000	69,960	49,960
1986	86,000	64,813	50,813
1987	82,000	59,435	41,435
1988	71,000	53,885	24,885
1989	76,000	49,334	25,334
1990	81,000	44,413	125,413
1991	86,000	39,142	125,142
1992	92,000	33,502	125,502
1993	85,000	27,700	112,700
1994	90,000	21,750	111,750
1995	100,000	15,225	115,225
1996	<u>110,000</u>	<u>7,975</u>	<u>117,975</u>
	<u>\$1,489,000</u>	<u>\$1,096,936</u>	<u>\$2,585,936</u>

Source: Price, Waterhouse & Company. June 30, 1977. City of Seward Financial Statements and **Supplementary** Information. Anchorage.

In addition to outstanding general obligation bonds, Seward also had a total of \$668,000 in revenue bonds outstanding as of June 30, 1977. While these are a long term financial obligation of the City, they are not classed as a debt since their repayment is theoretically covered by incoming revenues.

CITY OF KODIAK

Population and Economy

POPULATION

Past Trends

Kodiak dates back to the late 1700's when a settlement on St. Paul Harbor was established by Alexander **Baranof**. However, the community's population remained very small until World War II when a Navy base, a submarine base, an air station and a fleet weather command were established here. After World War II, the Naval base remained and in 1950 the community had a population of 7,710, almost double the number living here in 1940.

Kodiak's population continued to grow in the 1950's (see Table 81). The Kodiak Navy facility became the base of naval operations in the North Pacific and was substantially expanded. In addition, while the salmon and halibut fisheries continued to be important, **king** crab became the dominant element in Kodiak's fishing and fish processing industry, and a major element in the fisheries industry of the State as a whole. In 1950, Kodiak's king crab catch amounted to about 29,484 kilograms (65,000 pounds) but, by 1960, catches here were 324 times that amount. Reflecting the growth in Navy operations and fishing and fish processing, Kodiak's population grew almost 54 percent between 1950 and 1960.

TABLE 81

POPULATION TRENDS
KODIAK, ALASKA
1950-1978

<u>Year</u>	<u>Population</u>	<u>Percent Change</u>
1950	1,710	
1960	2,628	53.7
1970	3,798	44.5
1977 <u>a/</u>	4,260	12.2

a/ The 1977 population for the City of Kodiak was estimated by Kramer, Chin & Mayo, Inc. (July 1978) at 4,260. Excluding the Coast Guard base, the same firm estimated the total 1977 population of the Kodiak road-connected area at 6,050. According to the U.S. Coast Guard, approximately 2,500 people (including dependents) live on base. Thus, the total population of the Kodiak road-connected area is approximately 8,550 persons.

Sources: U.S. Department of Commerce, Bureau of the Census. 1971. Number of Inhabitants, Alaska. Washington, D.C. Final Report PC(1)-A3.

U.S. Department of Commerce, Bureau of the Census. 1960. Number of Inhabitants, Alaska. Washington, D.C. Final Report PC(1)-3A.

Kramer, Chin & Mayo, Inc. July 1978. Kodiak Island Borough Regional Plan and-Development Strategy: Summary Report. Seattle.

Kodiak's population grew a healthy 44.5 percent between 1960 and 1970, despite the disastrous 1964 earthquake, a gradual phaseout of the Kodiak Naval Station and a dramatic falling off in the king crab catch after 1966. The 1964 earthquake and accompanying tsunami wreaked havoc in Kodiak. Waves inundated the downtown area, and canneries, businesses and homes along the waterfront were destroyed. In addition, over 130 crab boats were either lost or damaged. However, the town was almost entirely rebuilt by 1970, due largely to the infusion of federal reconstruction funds. The decline in king crab catches after 1966, although serious, was offset to some extent by increased effort in the tanner crab and shrimp fisheries. Growth during this period was also derived from growth in secondary industry in response to earlier rapid growth in basic industry.

Since 1970, Kodiak's population has continued to grow, although at a slower rate. The final departure of the Navy in 1971 was reflected in some population loss in town due to a loss of civilian jobs but, since the Coast Guard took over the facility in 1972, some of these jobs have been reinstated. Kodiak's 1977 population of 4,260 represents a 12.2 percent increase over the City's 1970 population.

Excluding the Coast Guard base, the population of the Kodiak road-connected area was estimated by Kramer, Chin & Mayo, Inc. (July 1978) to be 6,050 in 1977. According to U.S. Coast Guard officials, approximately 2,500 people, including dependents, currently live on-base. Thus, the Kodiak road-connected area now has a total population of about 8,550 persons.

TABLE 82
POPULATION TRENDS
KODIAK CENSUS DIVISION a/
1950-77

<u>Year</u>	<u>Populati on</u>	<u>Percent Change</u>
1950	6, 264	
1960	7, 174	14. 5
1970	9, 409	31. 2
1977	8, 893	- 5. 5

a/ Includes Akhiok, Kaguyak, Karluk, Kodiak, Larsen Bay, Old Harbor, Ouzinkie, Port Lions and Woody Island.

Sources: U.S. Department of Commerce, Bureau of the Census. 1971.
Number of Inhabitants, Alaska. Washington, D.C. Final
Report PC(1)-A3.

U.S. Department of Commerce, Bureau of the Census. 1960.
Number of Inhabitants, Alaska. Washington, D.C. Final
Report PC(1)-3A.

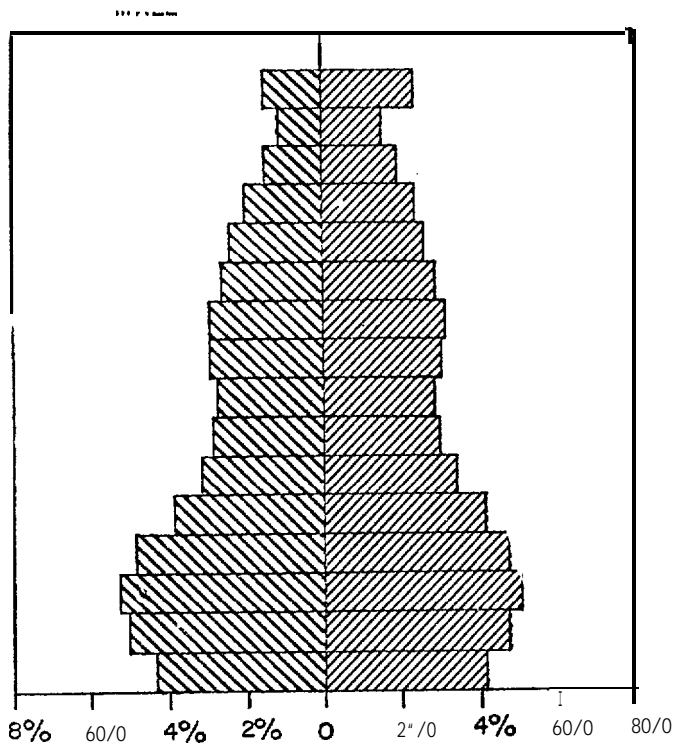
Alaska Department of Labor, Employment Security Division.
Verbal communication.

During the last 30 years, the population of the Kodiak census division (Akhiok, Kaguyak, Karluk, Kodiak, Larsen Bay, Old Harbor, Ouzinkie, Port Lions, Woody Island and the military facility) has increased at a much slower rate than the City of Kodiak. Between 1950 and 1978, the population of the census division rose 66 percent (see Table 82) compared with a growth of 190 percent recorded for the City during this same period. That the population of the census division as a whole grew at a slower rate than the City can be attributed largely to the gradual phaseout of the Naval station. While the Coast Guard complement at this base has increased substantially since 1972, it has not reached the level sustained by the Navy in the 1950's and 1960's. In addition, several of the Native villages on the island have lost population during this 30 year period. The Employment Security Division of the Alaska Department of Labor estimated that the census division had a population of 8,893 in 1977, representing a 5.5 percent decline since 1970, primarily due to shifts in military population in this area.

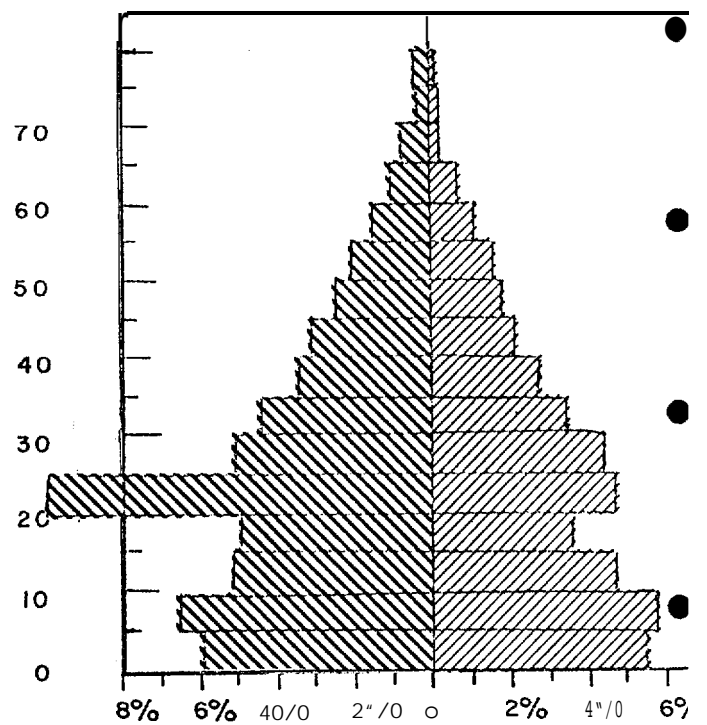
Population Composition

The composition of Kodiak's population displays peculiarly Alaskan characteristics (see Figure 20). Males outnumber females, the very young age groups are more than proportionately represented and there are relatively few people in the older age groups.

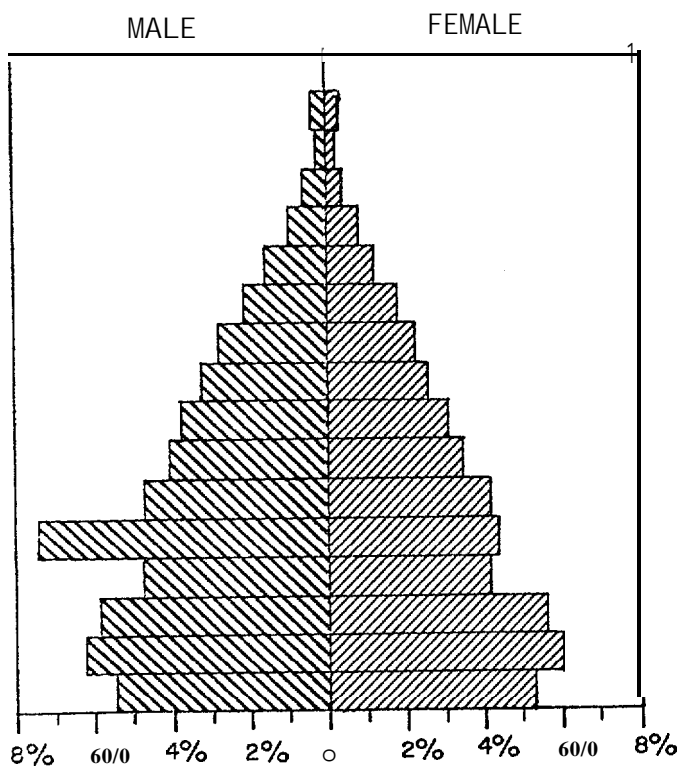
According to the 1970 census, males in the City of Kodiak outnumbered females by 54 to 46 percent, the same as the 1970 Statewide male to



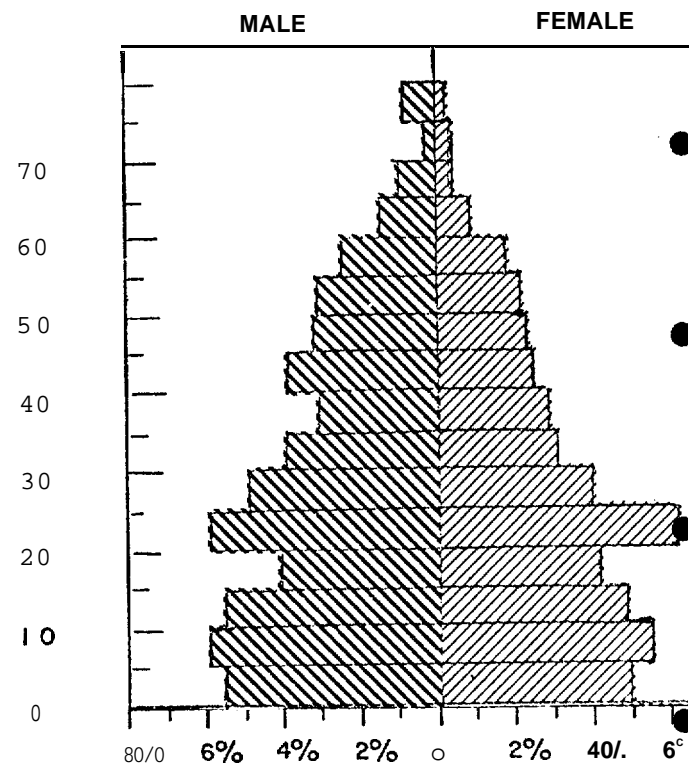
UNITED STATES



KODIAK CENSUS DIVISION



ALASKA



KODIAK

COMPOSITION OF POPULATION

Source: U.S. Census, 1970

female ratio but completely unlike the nation as a whole where females outnumbered males by a 51 to 49 percent margin. The high proportion of males in Kodiak's population was doubtless due to large numbers of transient fishermen coming to this community without their families.

Compared to the nation, both the City of Kodiak and the State had a high proportion of very young people in 1970. Only 8.4 percent of the national population was under 5 years old in 1970 whereas 10.4 percent of Kodiak's population and 11 percent that of the State was in this age range.

At the other end of the spectrum, Kodiak had a higher proportion of older people in 1970 than the State but both were well below national norms. In 1970, 22 percent of the State's population and 26 percent that of the City of Kodiak was aged 40 or more years whereas 36 percent of the national population was in this age range.

Reflecting its large transient fishing population, Kodiak has a high proportion of males in the 20 to 24 age range. In 1970, 5.8 percent of all males in the City were between 20 and 24 years of age, lower than the 7.5 percent recorded for the State but higher than the national average of only 3.8 percent.

The median age of both males and females in the City of Kodiak in 1970 was higher than the Statewide figure but substantially lower than that for the nation as a whole. The 1970 median age of Kodiak males was 25.3 compared with 23.3 for the State and 28.6 for the nation. The median

TABLE 83
COMPOSITION OF POPULATION BY RACE AND SEX
KODIAK, ALASKA

<u>Race</u>	<u>Sex</u>		<u>Total</u>	<u>Percent of Total</u>
	<u>Male</u>	<u>Female</u>		
White	1,668	1,426	3,094	81.5
Negro	27	17	44	1.2
Indian	32	21	53	1.4
Alut	244	235	479	12.6
Eskimo	14	17	31	0.8
Other	70	27	97	2.6
<u>TOTAL</u>	<u>2,055</u>	<u>1,743</u>	<u>3,798</u>	<u>100.0</u>

Source: University of Alaska, Institute of Social, Economic and Government Research. September 1973. Age and Race by Sex Characteristics of Alaska's Village Population. College. (Alaska Review of Business and Economic Conditions. Vol. x, No. 2.)

age of Kodiak females in 1970 of 22.9 was closer to the State median (22.2) and quite unlike that of the nation (29.3).

Kodiak's population is predominantly white (see Table 83). In 1970, 81.5 percent of the City's population was white, 14.8 percent was listed as Alaska Native, 1.4 percent was Negro and 2.6 percent was classified as "other". Whites accounted for a lesser share (76.7 percent) of the Kodiak census division's population in 1970, primarily because most people in the outlying settlements of Kodiak Island are Alaska Native.

The composition of the Kodiak census division's population in 1970 was unlike that of the City of Kodiak. However, most differences stem from the inclusion of the large military population at the Kodiak Naval Station in the census division. Military populations tend to be heavily dominated by males in the 20 to 24 age range and this is very apparent in the division's 1970 population composition (see Figure 20).

Growth Prospects

Kodiak's future growth and prosperity is inextricably tied to growth in this community's primary industry, fishing and fish processing. Other sources of economic strength include the continued presence of the U.S. Coast Guard in the area plus some probable expansion in tourism and recreation activities and in wood products. The investment plans of the regional and village corporations established under the terms of the

Alaska Native Claims Settlement Act will also be a factor in the future growth of both Kodiak and other communities on the Island.

Present fisheries activity in the Kodiak area centers around the exploitation and processing of king, tanner and Dungeness crab, shrimp, salmon and lesser amounts of other species. Employment in this sector of the area's economy has grown significantly during the past few years. In large part, this is due to the growth of the tanner crab fishery which has led to increased employment during the winter months and, thus, to gains in annual average employment.

Continued growth in Kodiak's fishing and fish processing industry is anticipated. While some of this growth will come from the recovery and stabilization of catches in traditional fisheries, bottomfishing offers the greatest potential for major increases in employment and population in the Kodiak area. Some effort toward establishing a bottomfish industry in the Kodiak area, such as that by the New England Fish Company, has already been made. However, regardless of the level of success of initial efforts, bottomfish remain a large fisheries resource which has generally been ignored by American fishermen in favor of higher unit value species such as salmon and crab. With the establishment of a 200 mile offshore territorial limit, American fishermen and processors have become increasingly interested in exploiting these bottomfish resources. Furthermore, it is generally agreed that Kodiak or the Aleutians (Dutch Harbor) would be the most logical locations for the establishment of a major bottomfish operation.

The Kodiak Coast Guard station is anticipated to remain at or around current strength in the future unless major new developments such as the exploitation of oil and gas resources in the Gulf of Alaska take place.

The Coast Guard base recently increased its complement of personnel following the establishment of a 200 mile offshore U.S. territorial limit and foresees no further expansion except under new conditions such as that mentioned above.

Increases in tourism in the Kodiak area are likely during the next twenty or so years. This is reportedly a goal of the Kodiak chamber of commerce which is interested in attracting convention-type activities to the community. Kodiak presently receives only a relatively minor amount of tourism although a few tour boats have recently begun to visit this area. Nevertheless, while increased tourism is probable in the Kodiak area, it is unlikely to become a major element in the community's economy.

The wood products industry is currently not significant in the Kodiak area. However, depending on the future status of Afognak Island, i.e. whether or not it is selectable by Native corporations established under the terms of the Alaska Native Claims Settlement Act, this industry could become a minor but significant element in the economy of the Kodiak area.

Finally, the investment plans of the Native corporations based in Kodiak Island including Koniag, Inc., the regional corporation, and the various

village corporations, promise to play an important role in the economic future of the Kodiak area. While the status of some of the village corporations is still subject to litigation, the Island's Native residents will ultimately become its major private landowners and will control virtually all coastal lands outside the immediate Kodiak area which are not in federal ownership. Given the marine orientation of all communities on Kodiak Island, the Native corporations will thus be in a good position to influence new economic development in this area, including the possible exploration and exploitation of outer continental shelf oil and gas resources of the western Gulf of Alaska.

ECONOMY

Kodiak's economy is very heavily based in the fishing and fish processing industry although the activities of the U.S. Coast Guard also contribute to the community's economic health. Other industries such as tourism and wood products are of relatively minor importance. These activities are called "basic" or exogenous as they are export industries whose fortunes are determined by forces outside the local area and are the foundation upon which "secondary" or endogenous industries, those whose fortunes are determined by local forces, rest. Thus, gains in basic industry are essential for long term community growth.

Composition of Employment

A separate count of employment in the immediate Kodiak area would have been extremely helpful in assessing the composition of Kodiak's employment and in evaluating recent trends. However, because of Kodiak's size, no separate count was practicable and data developed by the Employment Security Division of the Alaska Department of Labor for the Kodiak division (i.e. Kodiak Island) has instead been utilized. In terms of compatibility with employment counts undertaken in the three other communities under study (Yakutat, Cordova and Seward), State data has three major deficiencies. First, the most recent State employment data is two years older than that collected in the other three communities. Second, most fishermen are not included in State nonagricultural wage and salary statistics except for some in the miscellaneous sector. And, finally, military employees associated with the Kodiak Coast Guard station are not included since State statistics report only civilian employment. However, within these limitations, the following analysis of the composition of the Kodiak area's employment is offered.

By far the largest sector of the Kodiak division's nonagricultural wage and salary employment in 1976 was manufacturing, almost all of which was associated with seafood processing. This sector averaged 1,639 employees in 1976 and accounted for 36.5 percent of the division's total nonagricultural employment. A large proportion of fishermen are not included in State nonagricultural wage and salary statistics. However, it is assumed that essentially all 406 jobs (or 9 percent of the total)

recorded in the miscellaneous sector in 1976 were held by fishermen. Virtually all jobs in fishing and fish processing in the Kodiak area can be considered basic as only very minor amounts of fish are produced for local consumption.

After manufacturing, government was the largest employment sector in the Kodiak division in 1976. State and local government employment, as recorded by the Alaska Department of Labor, was the major sub-sector with most of this employment assumed to be in local government. The largest single local government employer is undoubtedly the Kodiak Island Borough School District. However, federal government employment is also a very significant element in Kodiak's economy. The largest federal employer is the U.S. Coast Guard station which reported to Alaska Consultants, Inc. in 1978 that it had 175 civilian employees. Not included in State statistics, however, are 1,000 service personnel (and their families) stationed in the community. All Coast Guard personnel, both civilian and military, can be considered basic employees. A share of State and other federal employment in the Kodiak Island area can also be considered basic.

Of the remaining sectors of the Kodiak division's economy in 1976, the trade and service sectors were the most heavily represented. Kodiak has well developed trade and service sectors, with a portion of this employment judged to be basic since it is derived from providing goods and services to the transient fishing fleet and processing plant workers. The division had an annual average of 512 employees in trade and 406 in services in

1976, accounting for 11.4 and 9.0 percent respectively of total nonagricultural wage and salary employment.

Contract construction averaged 253 employees in the Kodiak division in 1976. A large share of these employees were probably basic as the Coast Guard station saw a good deal of construction activity after the takeover of this facility from the Navy in 1972. Other major construction projects in the Kodiak division in 1976 are unknown but presumably at least some were also associated with basic activities.

The transportation, communications and public utilities sector averaged 213 employees in the Kodiak division in 1976 and accounted for 4.7 percent of total nonagricultural wage and salary employment. Kodiak functions as a re-distribution point for waterborne freight destined for the Prince William Sound area and the Aleutians and the Island is served by several airline and air taxi operators. Employees in these types of functions are primarily basic. However, most employees in the division's transportation, communications and public utilities sector are probably secondary.

Finance, insurance and real estate averaged 105 employees in 1976 or 2.3 percent of the Kodiak division's total nonagricultural wage and salary employment. While many of these employees are associated with the operation of banks, insurance firms and real estate operations, a significant number are employees of Native corporations established under the terms of the Alaska Native Claims Settlement Act. The latter can be considered basic.

Unemployment and Seasonality of Employment

Employment in the Kodiak division exhibits much less seasonal variation than most Alaska areas with economies based heavily in fishing and fish processing. In 1976, the most recent year for which complete figures are available, total nonagricultural wage and salary employment in the Kodiak division ranged between about 83 percent and 129 percent of the annual average. This degree of seasonality is far less extreme than the Cordova-McCarthy division, for example, which has a greater dependence on the salmon fishery than Kodiak. Nevertheless, the Kodiak area exhibits more employment seasonality than the Anchorage division where total nonagricultural wage and salary employment ranged between about 92 and 107 percent of the annual average in 1976 (see Figure 2 on page 40).

Peak employment in the Kodiak area in 1976 occurred in the month of August and was lowest in January. August is the height of the salmon season and other species such as halibut, shrimp and Dungeness crab are also taken during this period. Tanner and king crab are normally taken in January. However, bad weather at this time of year often interrupts fishing activities.

Unemployment rates in the Kodiak division in 1976 were slightly below Statewide averages and were lower than any other division in Southcentral Alaska in that year except for Anchorage and Valdez-Chitina-Whittier. It should also be noted that 1976 was not a "normal" year as employment Statewide and in certain census divisions, including Anchorage and

Valdez-Chitina-Whittier in Southcentral Alaska, was impacted by construction of the Trans Alaska Pipeline. The Kodiak area was relatively unaffected by this activity.

Using Alaska Department of Labor unadjusted figures, an average of 10.1 percent of the Kodiak division's civilian labor force was unemployed in 1976 compared with a Statewide average of 10.5 percent. Anchorage and Valdez-Chitina-Whittier, both of which were impacted by Pipeline construction, had lower annual average unemployment rates of 8.4 and 6.2 percent respectively. However, unemployment rates in the Kodiak area did not approach the extremes suffered by some other Southcentral Alaska divisions such as Seward (18.9 percent) or Matanuska-Susitna (31.9 percent).

Unemployment in the Kodiak division varies seasonally. In 1976, local unemployment rates ranged between 5 and 6 percent of the total civilian labor force from July through October and between around 9 to 10 percent for the remainder of the year. The total civilian labor force peaked in August at 5,359 persons, with an unemployment rate of 5.7 percent recorded for that month. However, the "low" unemployment month was October when only 5.3 percent of the civilian labor force was recorded as unemployed. By October, the transient salmon fishermen have left the area and the total civilian labor force for that month in 1976 was down by approximately 1,000 persons from August. However, October normally sees a heavy king crab fishing effort before the winter weather sets in and, thus, a very low proportion of the labor force is recorded as unemployed at this time of year.

TABLE 84
NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT DISTRIBUTION
KODIAK LABOR AREA
1970-1976

	1970		1971			1972		
	Number	%	Number	%	% Change	Number	%	% Change
Mining	<u>*/</u>		<u>*/</u>			<u>*/</u>		
Contract Construction	46	1.7	<u>*/</u>			125	4.3	
Manufacturing	743	27.9	768	27.2	3.4	866	30.1	12.5
Transportation, Communications, and Public Facilities	217	8.2	266	9.4	22.6	228	7.9	-14.3
Trade	346	13.0	343	12.2	-0.9	355	12.3	3.5
Finance, Insurance and Real Estate	<u>*/</u>		64	2.3		<u>*/</u>		
Service	190	7.1	241	8.5	26.8	232	8.1	-3.7
Miscellaneous	219	8.2	219	7.8	0.0	190	6.6	-13.2
Government	838	31.4	851	30.1	1.6	821	28.5	-3.5
Federal	(387)	(14.5)	(351)	(12.4)	(-9.3)	(272)	(9.5)	(-22.5)
State and Local	(451)	(16.9)	(500)	(17.7)	(10.9)	(549)	(19.0)	(9.8)
TOTAL	<u>2662</u>	<u>100.0</u>	<u>2821</u>	<u>100.0</u>	<u>6.0</u>	<u>2878</u>	<u>100.0</u>	<u>2.0</u>

*/ Employment figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor, Employment Security Division, 1970-1976.
Alaska Labor Force Estimates by Area and Employment by Industry.
Juneau.

1973			1974			1975			1976			1970 - 1976
Number	%	% Change	Number	%	% Change	Number	%	% Change	Number	%	% Change	% Change
			0						0			
3.7		4.8	206	5.7	57.3	269	7.1	30.6	253	5.6	- 6.0	450.0
39.7		64.1	1274	35.0	-10.4	1174	31.1	- 7.9	1639	36.5	39.6	120.6
6.2	- 2.2		263	7.2	17.9	219	5.8	-16.7	213	4.7	- 2.7	- 1.8
11.0	11.0		429	11.8	8.9	483	12.8	12.6	512	11.4	6.0	48.0
			78	2.1		91	2.4	16.7	105	2.3	15.4	
7.5	15.5		302	8.3	12.7	366	9.7	21.2	406	9.0	10.9	113.7
7.0	32.6		282	7.8	11.9	307	8.1	8.9	428	9.5	39.4	95.4
23.0	0.2		807	22.1	-1.9	868	23.0	7.6	894	19.9	3.0	6.7
(7.4)	(- 3.3)		(244)	(6.7)	(- 7.2)	(268)	(7.1)	(9.8)	(278)	(6.2)	(3.7)	(- 28.2)
(15.6)	(2.0)		(563)	(15.4)	(0.5)	(600)	(15.9)	(6.6)	(616)	(13.7)	(2.7)	(36.6)
100.0	24.3		3641	100.0	1.8	3777	100.0	3.7	4487	100.0	18.8	68.6

Recent Trends and Changes

Total nonagricultural wage and salary employment in the Kodiak division rose almost 69 percent between 1970 and 1976 (see Table 84), a healthy rate of growth but lower than the approximately 84 percent rate recorded for the State as a whole. However, as previously indicated, Statewide figures were severely impacted by Pipeline construction while the Kodiak area was little affected by this activity.

Employment in the manufacturing sector increased slightly more than 120 percent in the Kodiak division between 1970 and 1976. This represents a major gain in the area's primary basic industry, fishing and fish processing. To a large degree, this increase is due to a switch by a number of Kodiak area plants to more of a year-round operation which, aside from increasing total employment has also tended to lessen the degree of employment seasonality. Growth in the miscellaneous sector, which includes some but by no means all of the area's fishermen, also registered a healthy 95 percent rate of increase between 1970 and 1976.

Contract construction accounted for the largest proportional increase (450 percent) in employment in the Kodiak division between 1970 and 1976. However, apparent gains in this sector are misleading. Construction activity appears to have been at an abnormally low level in 1970, whereas improvements to the Coast Guard base after this facility was taken over from the Navy were probably a major contributor to the higher levels of employment in this sector in the mid-1970's.

Employment in the service and trade sectors registered 114 and 48 percent gains respectively between 1970 and 1976, with some of this growth doubtless taking place in response to growth in basic industry. During this same period, however, employment in transportation, communication and public utilities declined slightly (by almost 2 percent).

Government employment recorded a modest 6.7 rate of increase in the Kodiak division between 1970 and 1976. State and local government registered a close to 37 percent increase during this period, with most of this growth assumed to have taken place in the local government sub-sector. Federal government employment, on the other hand, declined by 28.2 percent during the 1970-1976 period. This decline followed the closure of the Kodiak Navy base in 1971.

Occupational Skills

Comprehensive information on the skills of the workforce of the Kodiak area is not available, nor are there reliable or current statistics developed on an individual community basis. However, the Employment Security Division of the Alaska Department of Labor has a job service center in Kodiak and maintains a list of skills of persons who register there when looking for a job. The skills claimed by these people are not necessarily representative of those of Kodiak's population as a whole. Nevertheless, they are used in the absence of other data.

TABLE 85

OCCUPATIONAL SKILLS
KODIAK JOB SERVICE REGISTRANTS
FY 1978 a/

<u>Occupational Category</u>	<u>Number</u>	<u>Percent of Total</u>
Professional /technical /managerial	58	7.9
Clerical and sales	122	16.7
Services	126	17.2
Farming, fishery, forestry	30	4.1
Processing	161	22.0
Machine trades	31	4.3
Bench work	2	0.3
Structural work	73	10.0
Miscellaneous	58	7.9
Unskilled	70	9.6
<u>TOTAL</u>	731	<u>100.0</u>

a/ Data as of June 30, 1978. Fiscal year ends September 30.

Source: Alaska Department of Labor, Employment Security Division.

During the first nine months of FY 1978, 731 persons registered at the Kodiak Job Service Center (see Table 85). The largest group of registrants (22 percent) claimed skills in processing, not surprising for a community with an economy so heavily dependent on the fisheries industry. After processing, most people listed skills in services (17.2 percent), clerical and sales (16.7 percent) and structural work (10 percent).

Very few people seeking work through the Job Service Center listed skills in farming, fishery, forestry (i.e. fishing), despite the very large number of fishermen in the community who are presumably highly skilled. This suggests that Kodiak fishermen seeking employment do not use the services of the Job Service Center rather than an absence of people in the community with fishing skills.

Income Levels

According to the 1970 U.S. Census, the median income of families in Kodiak and the Kodiak census division in 1969 was \$12,854 and \$11,166 respectively (see Tables 86 and 87). The median income for Kodiak was slightly above that Statewide in 1969 of \$12,443, whereas that for the division as a whole was somewhat below. However, median incomes for the census division were depressed by the former Kodiak naval station where a median 1969 income of only \$8,645 was recorded. Thus, it can generally be said that the civilian population of the Kodiak area enjoyed incomes comparable or slightly above those Statewide in 1969.

TABLE 86

HOUSEHOLD INCOME DISTRIBUTION
KODIAK, ALASKA
1969

<u>Household Income</u>	<u>Percent of Total</u>
Under \$3,000	6.4
\$3,000- \$ 4,999	9.2
\$5,000-\$6,999	13.3
\$7,000-\$9,999	13.1
\$10,000-\$14,999	31.7
\$15,000-\$24,999	21.0
\$25,000 or more	5.3
<u>TOTAL</u>	<u>100.0</u>

Source: U.S. Department of Commerce, Bureau of the Census. 1971. General Social and Economic Characteristics, Alaska. Washington, D.C. Final Report PC(1)-C3.

TABLE 87

HOUSEHOLD INCOME DISTRIBUTION
KODIAK CENSUS DIVISION
1969

<u>Household Income</u>	<u>Percent of Total</u>
Under \$3,000	6.4
\$3,000- \$4,999	8.7
\$5,000- \$6,999	12.1
\$7,000-\$9,999	16.5
\$10,000-\$14,999	29.3
\$15,000- \$24,999	21.7
\$25,000 or more	5.3
<u>TOTAL</u>	<u>100.0</u>

Source: U.S. Department of Commerce, Bureau of the Census. 1971. General Social and Economic Characteristics, Alaska. Washington, D.C. Final Report PC(1)-C3.

Census data are now nine years old and are relatively meaningless today except in comparative terms. Since no more recent comprehensive data are available for this area, a look at Alaska Department of Labor wage and salary statistics published in the Statistical Quarterly was taken. According to these data, average monthly wages in nonagricultural industries in the Kodiak division in 1976 were \$1,287, considerably below the Statewide average for that year of \$1,928. However, this apparent disparity in average wage levels is misleading. Statewide statistics in 1976 were distorted by the very high wages paid to many persons working on the Trans Alaska Pipeline, whereas the Kodiak area was relatively unaffected by this activity. Possibly even more significant, many of Kodiak's fishermen are excluded from nonagricultural wage and salary statistics. As a group, fishermen in this area tend to have reasonably high incomes and, thus, average monthly wages for all civilian employment in the Kodiak area are undoubtedly understated by State statistics.

A review of average monthly wages by industry sector for nonagricultural industries in the Kodiak division from 1975 through the third quarter of 1977 (see Table 88) indicates that the highest average monthly wages in this area are realized in the agriculture, forestry and fisheries sector. This group includes all fishermen counted in nonagricultural wage and salary statistics and realized an average monthly wage of \$3,006 during the third quarter of 1977. No comparable group was listed Statewide.

TABLE 88

AVERAGE MONTHLY WAGE BY INDUSTRY SECTOR a/
KODIAK DIVISION
1975 - 1977

	1975				1976				1977		
	1st Qr	2nd Qr	3rd Qr	4th Qr	1st Qr	2nd Qr	3rd Qr	4th Qr	1st Qr	2nd Qr	3rd Qr
TOTAL NONAGRICULTURAL INDUSTRIES	\$1,067	\$1,053	\$1,162	\$1,263	\$1,097	\$1,218	\$1,337	\$1,486	\$1,281	\$1,232	\$1,358
Construction	\$1,478	\$2,350	\$2,223	\$2,132	\$2,075	\$2,722	\$2,673	\$3,218	\$3,013	\$2,095	\$2,588
Manufacturing	\$1,163	\$ 849	\$1,015	\$ 944	\$ 965	\$1,057	\$1,140	\$ 988	\$ 953	\$1,064	\$1,218
Transportation, Communications & Public Utilities	\$1,024	\$1,084	\$1,272	\$1,215	\$1,102	\$1,239	\$1,535	\$1,852	\$1,519	\$1,582	\$1,887
Wholesale Trade	\$1,114	\$1,048	\$1,067	\$1,067	\$ 946	\$1,143	* /	\$1,312	\$1,051	\$1,148	\$1,416
Retail Trade	\$ 772	\$ 750	\$ 816	\$1,041	\$ 847	\$ 843	\$ 927	\$1,131	\$ 954	\$ 976	\$ 973
Finance, Insurance & Real Estate	\$ 901	\$ 919	\$ 958	\$ 981	\$1,007	\$ 932	\$ 944	\$1,014	\$1,072	\$1,041	\$1,131
Services	\$ 651	\$ 648	\$ 644	\$ 731	\$ 694	\$ 694	\$ 790	\$ 911	\$ 844	\$ 802	\$ 733
Agriculture, Forestry & Fisheries	\$1,597	\$ 976	\$1,192	\$2,215	\$1,194	\$1,608	\$2,089	\$3,664	\$2,182	\$2,359	\$3,006
Federal Government	\$1,398	\$1,493	\$1,404	\$1,784	\$1,529	\$1,776	\$1,511	\$1,871	\$1,657	\$2,094	\$1,882
State Government	\$1,192	\$1,116	\$1,203	\$1,324	\$1,267	\$1,247	\$1,372	\$1,774	\$1,689	\$1,699	\$1,824
Local Government	\$1,086	\$1,241	\$1,331	\$1,258	\$1,300	\$1,282	\$1,317	\$1,291	\$1,261	\$1,246	\$1,460

a/ No mining employment reported for Kodiak Division.

* / Figures withheld to comply with disclosure regulations.

Source: Alaska Department of Labor, Employment Security Division. 1975-1977. Statistical Quarterly. Juneau.

After agriculture, forestry and fisheries, the highest average monthly wages in the Kodiak area during the third quarter of 1977 were registered in contract construction (\$2,588). While this was a healthy average monthly wage, it was well below average rates recorded for the State during that quarter (\$4,041).

Average monthly wages in the Kodiak division for the third quarter of 1977 were above those recorded Statewide in the retail trade (\$973 versus \$960) and government sectors. In the government sector, the average monthly wage for the third quarter of 1977 was significantly above Statewide averages in federal (\$1,885 versus \$1,357), State (\$1,824 versus \$1,532) and local (\$1,460 versus \$1,386) government sub-sectors in the Kodiak division. In all other employment sectors, however, the average monthly wage in the Kodiak division was below State averages during this period.

Although unemployment is not generally seen as a problem in the Kodiak area, welfare payments in the form of general assistance from the Bureau of Indian Affairs and public assistance program payments distributed by the Alaska Department of Health and Social Services are significant sources of income to some Kodiak households. The Bureau of Indian Affairs distributed a total of \$23,258 to 22 individual "cases" in the Kodiak area in FY 1977 (see Table 89). However, the total amount paid under this program in FY 1977 was less than half that paid out in FY 1972.

TABLE 89

GENERAL ASSISTANCE PAYMENTS a_
 KODIAK, ALASKA
 FY 1972 - FY 1977

	FY 1972	FY 1973	FY 1974	FY 1975	FY 1976	FY 1977
Total Payment	\$50,067	\$60,758	\$20,802	\$21,796	\$16,859	\$23,258
Number of Cases	55	66	29	39	12	22
Average Payment:						
Annual	\$ 910	\$ 921	\$ 717	\$ 559	\$ 1,405	\$ 1,057
Monthly	\$. 76	\$ 77	\$ 60	\$ 47	\$ 117	\$ 88

a/ Payments made by the Bureau of Indian Affairs.

Source: U. S. Department of the Interior, Bureau of Indian Affairs.
 Juneau.

TABLE 90

PUBLIC ASSISTANCE PROGRAM PAYMENTS
 KODIAK, ALASKA
 OCTOBER 1977 a/

	Old Age Assistance	Aid to the Blind	Aid to the Disabled	Aid to Families with Dependent Children	Total
Total Payment	\$2,652	\$ 259	\$2,484	\$ 19,376	\$24,771
Number of Cases	23	2	19	69	113
Average Payment	\$ 115	\$ 130	\$ 131	\$ 281	\$ 219

a/ October is considered to be a representative month for public assistance payments.

Source: Alaska Department of Health and Social Services, Division of Public Assistance.

Statistics provided by the Alaska Department of Health and Social Services' Division of Public Assistance indicate that \$24,771 was distributed to 113 individual "cases" in Kodiak during a typical month in 1977, for an average monthly payment of \$113 (see Table 90). Almost 80 percent of these funds involved Aid to Families with Dependent Children payments.

SECTOR ANALYSIS

Fishing and Fish Processing

Kodiak is Alaska's premier fishing port. As in most other fisheries districts of Alaska, the Kodiak area's fishing industry was traditionally reliant on salmon, supplemented by catches of halibut and herring. However, while salmon remains a very important fishery, the addition of large scale **king** crab, tanner crab and shrimp fisheries, plus other products such as **Dungeness** crab and, more recently, bottomfish, have served to make this area's seafood processing industry a highly diversified year-round operation.

According to Alaska Department of Labor employment statistics, an annual average of 1,639 persons in the Kodiak area were employed in manufacturing in 1976, almost all of them in fish processing. Using gear registration data, multiplying the various types of vessels by normal crew sizes and then converting employment to an annual average year-round basis, Alaska Consultants estimated that another 850 persons in this area were engaged in fishing in 1977.

Most processing activity in the Kodiak area takes place in Kodiak itself but several plants, primarily salmon canneries, are located elsewhere on the Island. According to Alaska Department of Fish and Game officials in Kodiak, there are currently six or seven major salmon processors in Kodiak and about five at other locations on the Island. However, some processors outside Kodiak operate only during years of good forecasts. In addition, Alaska Department of Fish and Game officials estimated that there are currently 17 or 18 major shellfish processors in Kodiak (some of which are also salmon processors) but only small processors elsewhere on the Island. A plant at Old Harbor burned a couple of years ago and some shrimp and crab processing is carried out here by floaters for short periods.

In addition to seafood processors, Kodiak has a plant which processes crab shells and fish wastes to make fish meal and other products. The development of this type of plant became feasible as a result of federal and State regulations governing the disposal of fish wastes and Kodiak's Bio-Dry plant is the biggest in the Pacific Northwest and, possibly, in the entire United States. The plant was built in 1971, primarily to handle crab shells. However, its capacity was greatly expanded in 1974 to also handle finfish wastes.

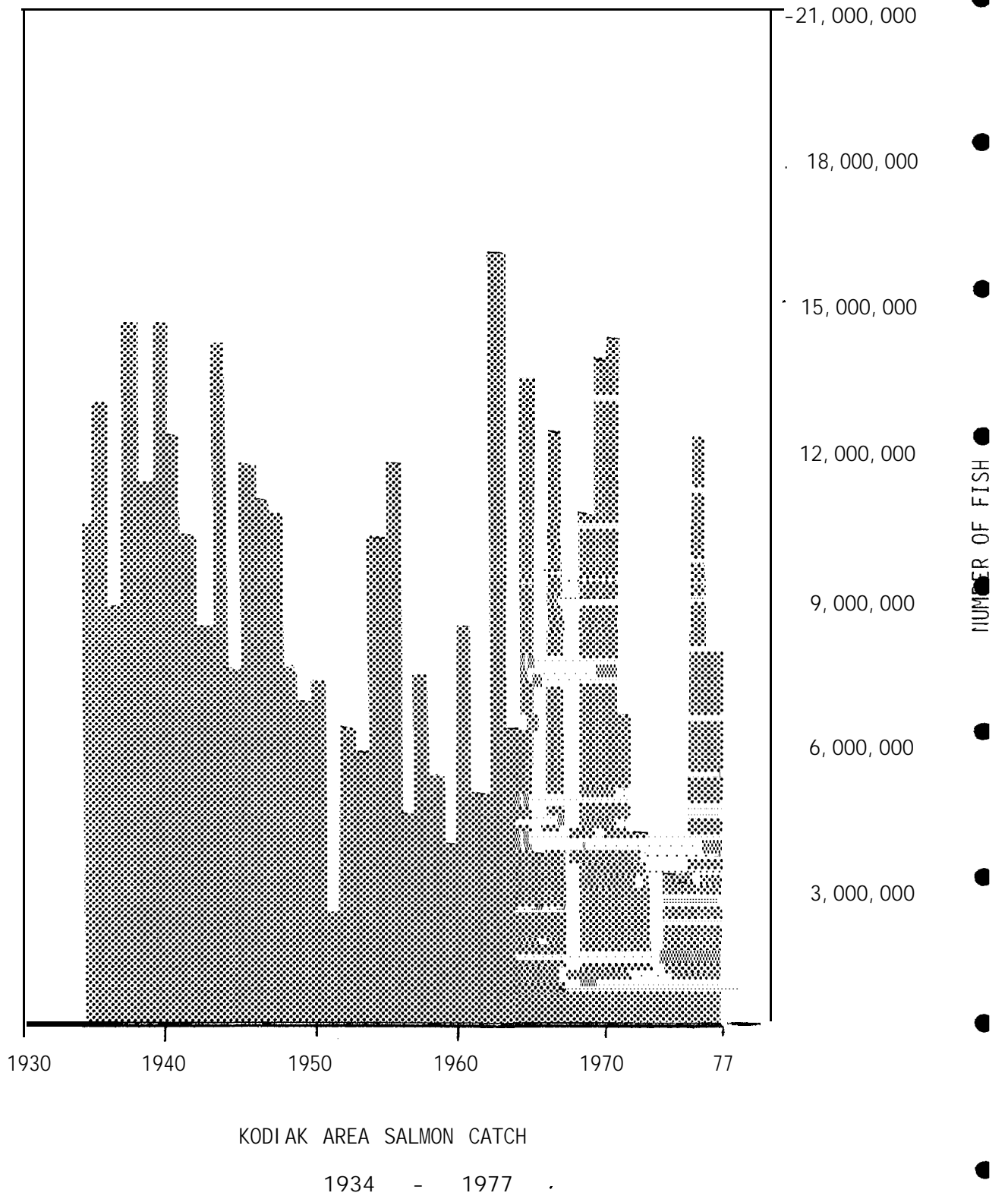
The salmon fishery has been a factor in the economy of Kodiak Island since 1882 when the first cannery was built at Karluk. According to Chaffin (1967), two-thirds of the entire Alaska salmon pack in the early 1880's came from ten canneries on Kodiak Island, almost all of this from

the Karluk River. Kodiak has continued to be an important salmon producing area but it no longer dominates the total Alaska catch (see Figure 21).

The composition of salmon species taken in the Kodiak area has changed since the early days. Until 1900, red salmon was the primary species taken. However, after 1910 pinks became increasingly important and are the main species taken today. Chums are now the second most commonly taken species (although third in value), followed by reds.

Between 1960 and 1977, the annual salmon catch in the Kodiak area averaged close to 8 million fish. Of this, pinks averaged slightly over 6.5 million fish taken per year, chums almost 0.7 million and reds close to 0.5 million (see Table 91). During the past three years (1976 through 1978), however, the Kodiak area has experienced exceptionally good runs. According to a report in the Alaska Fisherman's Journal (Vol. 1, No. 8, September 1978), the Alaska Department of Fish and Game expects a total 1978 pink salmon harvest of between 11 and 12 million fish. Fish and Game officials interviewed in Kodiak in August 1978 were optimistic about the future of the salmon industry as they believe that runs in this area have now stabilized at a fairly high rate of return and that these levels will remain unless natural factors such as cold winters come into play.

Halibut is a significant element in Kodiak's fishing and fish processing industry. This is an international fishery with catch levels and the



Source: Alaska Department of Fish and Game,
Unpublished data

TABLE 91
COMMERCIAL SALMON CATCH BY SPECIES
KODIAK AREA
1940 - 1977
(Nearest 1,000 fish)

Year	Salmon Species					Total
	King	Red	Coho	Pink	Chum	
1940	3,000	1,318,000	163,000	9,997,000	674,000	12,155,000
1941	5,000	1,730,000	208,000	7,601,000	445,000	9,989,000
1942	3,000	1,281,000	106,000	6,093,000	565,000	8,048,000
1943	2,000	1,991,000	61,000	12,480,000	454,000	4,988,000
1944	2,000	1,818,000	45,000	4,956,000	507,000	7,328,000
1945	4,000	2,041,000	79,000	9,045,000	559,000	1,728,000
1946	1,000	839,000	71,000	9,546,000	298,000	0,754,000
1947	1,000	994,000	72,000	8,857,000	295,000	0,119,000
1948	1,000	1,260,000	32,000	5,958,000	331,000	7,582,000
1949	1,000	892,000	54,000	4,928,000	700,000	6,575,000
1950	2,000	921,000	41,000	5,305,000	685,000	6,954,000
1951	2,000	470,000	48,000	2,006,000	422,000	2,948,000
1952	1,000	631,000	36,000	4,554,000	984,000	6,206,000
1953	3,000	392,000	39,000	4,948,000	490,000	5,872,000
1954	1,000	329,000	56,000	8,325,000	1,140,000	9,851,000
1955	2,000	164,000	35,000	10,794,000	480,000	11,477,000
1956	1,000	306,000	54,000	3,349,000	660,000	4,370,000
1957	1,000	234,000	35,000	4,691,000	1,152,000	6,113,000
1958	2,000	288,000	21,000	4,039,000	931,000	5,281,000
1959	2,000	330,000	15,000	1,800,000	734,000	2,881,000
1960	2,000	362,000	54,000	6,685,000	1,133,000	8,236,000
1961	1,000	408,000	29,000	3,926,000	519,000	4,883,000
1962	1,000	785,000	54,000	14,189,000	795,000	15,824,000
1963	--	407,000	57,000	5,480,000	305,000	6,249,000
1964	1,000	478,000	36,000	11,862,000	932,000	3,309,000
1965	1,000	346,000	27,000	2,887,000	431,000	3,692,000
1966	1,000	632,000	68,000	10,756,000	763,000	2,220,000
1967	1,000	284,000	10,000	188,000	221,000	704,000
1968	2,000	760,000	56,000	8,761,000	750,000	0,329,000
1969	2,000	604,000	35,000	12,493,000	537,000	3,671,000
1970	1,000	917,000	66,000	12,045,000	919,000	3,949,000
1971	1,000	478,000	23,000	4,333,000	1,541,000	6,376,000
1972	1,000	222,000	14,000	2,486,000	1,165,000	3,890,000
1973	1,000	167,000	4,000	512,000	318,000	1,002,000
1974	1,000	415,000	13,000	2,646,000	248,000	3,323,000
1975	--	136,000	24,000	2,943,000	84,000	3,187,000
1976	1,000	630,000	23,000	10,906,000	718,000	12,227,000
1977 <u>a/</u>	1,000	624,000	28,000	6,255,000	1,072,000	7,979,000
<hr/>						
Average Since 1960	1,000	481,000	34,000	6,631,000	692,000	7,836,000

a_/ Preliminary figures.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries. Kodiak.

length of the fishing season regulated by the International Pacific Halibut Commission. The 1978 quota for Area 3 (which extends westward from Cape Spencer out along the south side of the Aleutians) was set at 4,989,600 kilograms (11 million pounds). Fishing periods were set at May 8 to May 31, June 19 to July 6, July 25 to August 10 and August 26 to September 11, with the season to close as soon as the quota was reached. A check with officials of the International Pacific Halibut Commission indicated that the 1978 Area 3 season closed on August 4.

Halibut catches have declined sharply in recent years and the quotas have been adjusted downward accordingly. For example, the quota for Area 3 was as high as 11,340,000 kilograms (25 million pounds) in 1973. A slight improvement has been noted in Area 3 during the past two or three years but stocks remain at a low level. According to preliminary figures provided by the International Pacific Halibut Commission, a total of 5,488,560 kilograms (12.1 million pounds) of halibut were taken in Area 3 in 1978, approximately the same as the 1977 catch of 5,609,671.2 kilograms (12,367,000 pounds) which was taken under the same quota conditions. In 1977, 2,116,044 kilograms (4,665,000 pounds) of halibut were landed at Kodiak, well over one-third of the total Area 3 catch. This was about the same as 1976 when 2,002,190.4 kilograms (4,414,000 pounds) were landed in Kodiak.

Although Kodiak is a major halibut port, halibut is not viewed by Alaska Department of Fish and Game officials in Kodiak as a fishery with great promise for the future. In their opinion, large scale entry into

bottomfishing in this area could destroy the halibut fishery as intensive trawling would be likely to take too many halibut. They also questioned the relative **value** of the halibut fishery with its apparent low potential for growth versus a potentially major new fishery in bottomfishing. However, possible conflicts between these fisheries could well be overcome through regulation or international agreements.

Herring is taken in the Kodiak area for bait and for sac roe. According to Alaska Department of Fish and Game officials in Kodiak, approximately 816,480 kilograms (900 tons) of herring is expected to be taken here in 1978, of which around 254,016 kilograms (280 tons) will be taken in the form of bait and the remainder as sac roe. The 1978 catch is up sharply from 1977 when 11 boats delivered a total of 308,448 kilograms (340 tons). Herring was fished by 30 boats in 1978 compared with 11 in 1977. A variety of vessels are used, including seiners, trawls and, since 1977, several **gillnetters**.

The sac roe fishery takes place between April 15 and June 10, with almost all roe shipped to Japan. Herring for bait is fished sporadically year-round, often in response to demands from processors. When bait supplies are short, processors have offered fishermen as much as 51 cents per kilogram (23 cents per pound) and such prices have encouraged a number of vessels to temporarily enter the herring fishery.

Limited entry regulations do not apply to the herring fishery in the Kodiak area although there are still many unknowns associated with the

fishery here. However, the Kodiak area has supported large herring catches in the past. The initiation of large scale herring reduction operations in the mid 1930's saw a peak catch of 109,587,038.4 kilograms (120,797 tons) in 1934 and, between then and 1950, catches generally averaged between 27,216,000,000 and 36,288,000,000 kilograms (30 and 40 million tons) per year. The dramatic decline of herring catches in the 1950's was the result of adverse market conditions for herring oil rather than a decline in the resource. Thus, the herring fishery in the Kodiak area appears to have a good potential for expansion.

Shellfish are a major element in Kodiak's fishing and fish processing industry. King crab, tanner crab and shrimp are the most important shellfish products but other species such as Dungeness crab, razor clams and scallops are usually also taken.

Kodiak Island's king crab fishery got underway in the late 1940's and, throughout the 1950's, around 2,358,720 kilograms (5.2 million pounds) was taken annually by salmon purse seine type vessels in bays and nearshore areas. The fishery expanded rapidly after 1960, reaching an all time high catch of 42,833,913.4 kilograms (94,431,026 pounds) in 1965-66 (see Table 92). According to the Alaska Department of Fish and Game (April 1978), continued increases in vessels, effort and gear efficiency coupled with declines in stock abundance during the 1960's, resulted in lowered harvests, with a "low" season commercial catch of about 4,944,240 kilograms (10.9 million pounds) during the 1971-72 season. Successive years of good recruitment produced catches of close to 10,886,400 kilograms (24

TABLE 92
SHELLFISH CATCH BY SPECIES
KODIAK AREA
1960 - 1978
(pounds) a/

Year	Ki ng Crab	Dungeness Crab <u>e/</u>	Tanner Crab	Shrimp <u>k/</u>	Seal <u>lops q/</u>	Razor Clams <u>r/</u>
1960/61	21,064,871 <u>b/</u>	---	---	11,083,500	---	420,600
1961/62	28,962,900	---	---	12,654,027	---	382,000
1962/63	37,626,703	1,904,567	---	10,118,472	---	297,500
1963/64	37,716,223	2,487,512	---	4,339,114	---	323,800
1964/65	41,596,518	4,162,182	---	13,823,061	---	---
1965/66	94,431,026	3,311,571	---	24,097,141	---	20,000
1966/67	73,817,779 <u>c/</u>	1,148,600	110,961 <u>f/</u>	38,267,856	---	14,800
1967/68	43,448,492	6,663,668	2,560,687 <u>f/</u>	34,468,713	7,788 <u>o/</u>	2,200
1968/69	18,211,485	6,829,061	6,827,312 <u>f/</u>	41,353,461	872,803 <u>p/</u>	6,400
1969/70	12,200,571 <u>d/</u>	5,834,628	8,415,782 <u>g/</u>	62,181,204	1,012,860	12,000
1970/71	11,719,970	5,741,438	6,744,163	82,153,724 <u>l/</u>	1,417,612	132,300
1971/72	10,884,152	1,445,864	9,475,902	58,352,319 <u>m/</u>	841,211	190,394
1972/73	15,479,916	2,059,536	30,699,777	70,511,477	1,038,793	152,116
1973/74	14,397,287	2,000,526	29,820,899 <u>h/</u>	56,203,992 <u>n/</u>	935,705	165,282
1974/75	23,582,720	750,057	13,649,969	58,235,982	147,945	198,381
1975/76	24,061,651	639,813	27,336,911 <u>i/</u>	49,086,591	294,142	6,188
1976/77	17,966,846	87,110	20,720,079 <u>j/</u>	46,712,083	75,245	---
1977/78	13,503,666	113,026	29,248,428	26,409,366	---	400

a/ Multiply by .0004535147 to obtain metric tons.

b/ Fishing year defined as May 1 - April 30.

c/ July 1 - April 30 season established.

d/ August 15 - January 15 season established.

e/ Calendar years 1962 - 1977.

f/ Calendar years 1967, 1968, 1969.

g/ Fishing year July 1 - June 30.

h/ Legal season November 1 - June 30. Season terminated May 15 due to onset of mating period.

i/ Legal season November 1 - April 30.

j/ Legal season January 1 - April 30, 1977.

k/ Calendar years 1961 - 1973.

l/ First egg hatch closures announced for a portion of the Kodiak district shrimp fishery during March and April, 1971.

m/ First year quotas established.

n/ Beginning in the 1973-74 fishing season, a complete egg hatch closure for the entire fishing district was in effect during March and April. Fishing year began May 1, and continued through February 28.

o/ Unshucked scallops only.

p/ 718,671 pounds scallops shucked; 154,132 pounds unshucked.

q/ Calendar years 1967 - 1977.

r/ Calendar years 1960 - 1977.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries, 1978. Westward Region Shel 1 fish Report to the Alaska Board of Fisheries. Kodiak.

million pounds) during the 1974-75 and 1975-76 seasons. However, lowered stock abundance since 1976 has again resulted in a decline in the harvest during the past two seasons. ●

A total of eighteen processors processed king crab in the Kodiak area during the 1977-78 season. Fifteen of these were based in Kodiak, with one small operation in Port Lions and two floaters at Jap Bay in the southeast section of Kodiak Island. Despite the poor catches expected, vessel effort in the Kodiak area king crab fishery remained high, with 179 vessels fishing. According to the Alaska Department of Fish and Game (April 1978), prices of \$2.01 to \$3.68 per kilogram (91 cents to \$1.67 per pound) attracted many vessels into the fishery and produced a product with an ex-vessel value estimated at \$18.1 million, about a 35 percent increase over the \$11.8 million ex-vessel value in 1976-77. ●

Alaska Department of Fish and Game officials in Kodiak profess not to be unduly alarmed over the present low king crab catches in the Kodiak area and indicated that these are probably a result of high rates of mortality seven or-eight years ago. They anticipate that classes of king crab reaching recruit (i.e. legal) size will again appear in large numbers in 1979, perhaps sufficient to yield catches in the vicinity of 18,144,000 kilograms (40 million pounds). Furthermore, the Department expects these high catch levels to be sustained at least for two to three years. In the meantime, however, another poor catch is expected during the 1978-79 season and the Department is proposing a guideline level of 3,175,200 to 4,536,000 kilograms (7 to 10 million pounds), with a probable harvest of 4,989,600 kilograms (11 million pounds). ●

Tanner crab is a relatively new commercial fishery in the Kodiak area, as it is elsewhere in Alaska. The first commercial catch here was recorded in 1967 when almost 50,349.6 kilograms (111,000 pounds) was taken. Catches rose steadily, reaching 4,298,269.1 kilograms (9,475,902 pounds) in 1971-72. However, as king crab abundance declined in the late 1960's and early 1970's, markets for tanner crab improved and prices paid to fishermen for this species rose. Not surprisingly, fishing effort increased accordingly.

The 1972-73 catch of almost 13,925,520 kilograms (30.7 million pounds) was more than three times that of the previous year and, except for 1974-75 and 1976-77, catches have since remained at about the 1972-73 level. (The low catch in 1974-75 was primarily the result of a prolonged strike).

Eighteen processors in the Kodiak area bought tanner crab during the 1977-78 season. Sixteen of these were based in Kodiak, with one floating processor operating out of Old Harbor and another out of Kempf Bay. A total of 145 vessels fished tanner crab during this season, compared with 102 during 1976-77. According to the Alaska Department of Fish and Game (April 1978), the Kodiak area tanner crab fishery had an approximate value to fishermen of \$13.7 million during 1977-78, based on a price of \$0.95 per kilogram (\$0.43 per pound). The Department further indicated that if similar increases in effort occur in 1978-79, as many as 160 to 180 active vessels could be expected to participate in this fishery in the Kodiak area.

Commercial harvest data collected by the Alaska Department of Fish and Game does not indicate over-exploitation of tanner crab stocks in the Kodiak area. The Board of Fisheries set a guideline harvest level of 14,515,200 to 15,422,400 kilograms (15 to 25 million pounds) of tanner crab for the 1976-77 and 1977-78 seasons. This range indicates a moderate harvest level. In the opinion of Alaska Department of Fish and Game officials in Kodiak, a seasonal catch of around 13,608,000 kilograms (30 million pounds) could probably be sustained in this fisheries area.

According to the Alaska Department of Fish and Game (April 1978), legal tanner crab stocks in the Kodiak management district appear to be stable. However, some heavily fished inshore and bay areas, such as Chiniak Bay which was closed by emergency order in March 1978 because of exceptionally heavy fishing pressure, will require monitoring and possible early closures in view of the increasingly heavy fishing effort expected. The Department further indicated that its policy of expanding the tanner crab harvest above the maximum end of the guideline level of 11,340,000 kilograms (25 million pounds) is likely to continue during the 1978-79 season if levels of abundance and fishing performance are similar to those in 1977-78. Thus, the tanner crab fishery appears to face a promising future in the Kodiak area.

The Kodiak area has an important shrimp fishery. Development of this fishery began in 1958 when a total of 1,315,200 kilograms (2.9 million pounds) was harvested. From 1960 onward, the various shrimp grounds in the Kodiak area were steadily developed, peaking in 1971 when slightly

more than 37,195,200 kilograms (82 million pounds) were taken. Since that date, however, catches have **fallen** off dramatically, with the 1977-78 catch of about 11,975,400 kilograms (26.4 million pounds) being the lowest since the 1965-66 season. Alaska Department of Fish and Game officials in Kodiak indicated that the 1978-79 shrimp catch in this area is **likely** to be even lower than that recorded in 1977-78.

Nine Kodiak area processors handled shrimp during the 1977-78 season, including one catcher/processor. In all, 58 trawl vessels participated in this fishery, making a total of 653 landings. Otter trawlers dominated, harvesting 10,977,120 kilograms (24.2 million pounds) or about 92 percent of the catch in the Kodiak area, while only comparatively minor amounts were taken by beam trawlers or in shrimp pots. According to the Alaska Department of Fish and Game, the average keel length of a Kodiak shrimper during the 1977-78 season was 21.6 meters (71 feet), 61 centimeters (2 feet) longer than the average for the 1976-77 season.

The Department of Fish and Game (April 1978) ascribes most of the 43 percent decline in shrimp production between the 1976-77 and 1977-78 seasons to stock declines evident in the three major production areas: Inner Two-Headed Island, Inner Marmot Bay and Marmot Island. The 1977-78 catch in these areas was 1,814,400, 680,400 and 1,496,880 kilograms (4.0, 1.5 and 3.3 million pounds) respectively compared with 5,397,840, 1,224,720 and 5,533,920 kilograms (11.9, 2.7 and 12.2 million pounds) recorded for these same areas during the previous season. Most other areas maintained relatively stable production rates, with significant increases recorded in the Inner Uyak and Inner Uganik Bay areas.

The dramatic decline in shrimp stocks in several areas of the Kodiak district has forced revision of the seasons and guideline harvest levels. The 1978-79 seasonal guideline harvest level has been proposed for 5,896,800 to 21,319,200 kilograms (13 to 47 million pounds), with a probable harvest expected in the order of 9,072,000 to 11,340,000 kilograms (20 to 25 million pounds). Alaska Department of Fish and Game officials in Kodiak indicated that rising shrimp prices have to a large extent compensated fishermen for decreased catches. However, if the gross receipts received by vessels fall significantly in the future, it may force these vessels into other fisheries. Under such conditions, some shrimp processors would also be likely to divert at least some of their effort to other fisheries such as tanner crab or bottomfish.

The Kodiak area Dungeness crab fishery dates back to 1962 when a catch of 861,840 kilograms (1.9 million pounds) was recorded. Under conditions of favorable markets and large virgin stocks, commercial harvests of this species generally increased, peaking during a four year period between 1967-68 and 1970-71 with an average annual harvest of approximately 2,857,680 kilograms (6.3 million pounds). However, during the early 1970's, the fishery declined as a result of biological and environmental factors and, sometimes also because of poor market conditions. More recently, continued poor markets and the attraction of other fisheries have combined to keep Dungeness catches at a low level.

The 1977 Kodiak Dungeness crab season opened May 1 and continued through December 31. However, a catch of only 51,256.8 kilograms (113,000

pounds) was recorded, with two vessels making a total of 16 landings. Most of the crab were taken from the east side of Kodiak Island, with smaller amounts taken along the west side and along the Alaska Peninsula. Because of the minimal effort expended, no harvest guideline level was set in 1977. Four processors participated in the fishery, with the price for almost all crab delivered being \$0.66 per kilogram (\$0.30 per pound).

Dungeness crab has a wide range, extending from Southcentral Alaska as far south as California. This fishery originated on the West Coast and that area remains its principal market. Thus, Alaska catches tend to fluctuate in relation to the size of the West Coast catch. The failure of the West Coast catch in 1978 (and, thus, higher prices to Alaska fishermen) coupled with a poor outlook for the upcoming Kodiak area trawl shrimp and king crab seasons have encouraged several vessels to consider recentering the Dungeness crab fishery. According to Alaska Department of Fish and Game officials in Kodiak, about half a dozen vessels are ready to start fishing in this area. Under good market conditions, they believe that the Kodiak area could support a sustained yield of between 907,200 and 1,360,800 kilograms (2 and 3 million pounds) of Dungeness crab annually.

Other shellfish taken and processed in the Kodiak area include razor clams and weathervane scallops. Razor clams have been harvested in this area since the early 1920's. However, a combination of increased federal and State regulation over clam processing, poor market conditions and

the 1964 earthquake helped to bring this fishery to its present low level. During the 1970-74 period, between 45,360 and 90,720 kilograms (100,000 and 200,000 pounds) per year were harvested at Swikshak and Big River beaches for the Dungeness crab fishery. However, there have been no harvests for human consumption since the 1964 earthquake. According to the Alaska Department of Fish and Game (April 1978), recent sporadic efforts to harvest razor clams in this area have been poorly financed and the resulting harvest of a few thousand pounds has come from "one man" ventures. Swikshak Beach is the only certified beach (in regard to paralytic shellfish poisoning) in the Kodiak area for the harvesting of razor clams for human consumption.

According to the Alaska Department of Fish and Game, a yearly harvest of approximately 136,080 kilograms (300,000 pounds) is available at Swikshak and adjacent beaches and this fishery thus has considerable potential for expansion. The Department also reported (April 1978) a continuing interest in the use of hydraulic dredges for, clam harvesting although no successful operation has yet been established. During 1977, two permits for experimental and/or developmental hydraulic dredging in the Kodiak management area were issued, with both operations working on the Alaska Peninsula south of Cape Chiniak.

The weathervane scallop fishery began in the Kodiak area in 1967 when several New England scallop draggers began fishing Alaska waters. According to the Alaska Department of Fish and Game (April 1978), total historical production through 1976 has resulted in about 2,939,328

kilograms (6.48 million pounds) of shucked meat (although another 329,521.8 kilograms or 726,459 pounds of unshucked scallops were landed in 1967-68). No fishing for weathervane scallops took place in the Kodiak area during 1977 and none is expected in 1978.

Alaska Department of Fish and Game officials in Kodiak ascribed the decline of the scallop fishery in this area to poor prices, the hard work required of crew members and the attraction of other, more lucrative fisheries for scallop vessels and crews. About three of the original New Bedford scallop vessels remain in the Kodiak area but they are now engaged in other fishing activities. However, the area does have good scallop beds and this remains a fishery with promise for higher exploitation under better market conditions and with the successful introduction of mechanical shucking equipment.

Bottomfish have traditionally been taken in the Kodiak area for king and tanner crab bait. However, processing of bottomfish for human consumption is a new, developing fishery in this area and one with a capacity to make a major contribution to the area's economy. One Kodiak plant, the New England Fish Company, installed a bottomfish line in 1977 and, in 1978, announced plans to add a second line. Another processor, Alaska Packers, has also announced plans to add a bottomfish line at its Kodiak plant and has ordered Baader filleting equipment for this purpose. In addition, a Danish firm is currently studying the feasibility of establishing a salting plant at Kodiak which would process cod, herring and pollock.

The New England Fish Company has announced plans to bring up a 29.3 meter (96 foot) vessel from Seattle to provide **bottomfish** for its Kodiak plant. This new vessel, a stern trawler, is currently being outfitted with mid and deep water trawl equipment, sonar and other sophisticated electronics and automatic recording equipment. Plans call for this vessel to fish year round, with its catch to be supplemented by vessels from the Kodiak shrimp fleet when they are not shrimping. A second New England boat now fishing around Seattle can be sent north if activity warrants and the company is having a third vessel built with Kodiak **bottomfishing** in mind.

Alaska Packers' immediate plans for expansion into **bottomfishing** are more modest than those of New England. This firm intends to process **bottomfish** only for a few months a year when the shrimp season is closed. As reported in the Alaska Fisherman's Journal (August 1978), the firm sees **bottomfish** as an alternative fishery for shrimp boats and its plant when shrimping is down.

Interest in exploitation of Alaska's **bottomfish** resources, long dormant, accelerated following the U.S. declaration of a 200 mile offshore territorial limit. This fishery is still in the experimental stages. However, it is generally agreed that Kodiak is the most logical location in Alaska for this fishery to first develop. One factor which could diminish onshore processing of Alaska's **bottomfish** resources, however, would be the use of Alaska vessels to deliver **bottomfish** to foreign fleets. According to the Alaska Fisherman's Journal (August 1978), a

joint venture between an Alaska firm and the Korea Marine Industry Development Corporation has been cleared by the U.S. Department of Commerce and the Koreans have been granted a permit to buy pollock from U.S. fishermen. According to the Alaska firm, eight U.S. boats between 30.5 and 38.1 meters (100 and 125 feet) in length are committed to this venture and the average catch for these boats has been projected at 50 metric tons per day.

Tourism and Recreation

Tourism is currently a minor economic activity in the Kodiak area but it is an industry which has some potential for expansion. Kodiak has traditionally been somewhat "off the beaten track" for tourists. However, this may change in the future.

The Kodiak area offers a wide variety of outdoor recreation experiences for visitors. Most of Kodiak Island is within the Kodiak Island National Wildlife Refuge which is managed by the U.S. Fish and Wildlife Service. In addition, nearby Afognak Island is currently within the Chugach National Forest. The Kodiak area has an attractive natural setting and supports a variety of game animals, birds and marine life which attract hunters and sport fishermen. According to the manager of the Kodiak Island National Wildlife Refuge, the area provides exceptional bear hunting and steelhead fishing opportunities for sportsmen. Both the Fish and Wildlife Service and the Forest Service provide cabins for use by sportsmen and other visitors. However, Fish and Wildlife Service

cabins provided for the use of these people are not used more than 50 percent of the time, primarily because of the difficult access.

Kodiak is served twice daily from Anchorage via Mien Air Alaska and also has a direct air connection via Western Airlines to Seattle. In addition, the community receives scheduled ferry service via the M/V Tustumena. However, the latter is not heavily used by tourists (see Table 93).

The communities on Kodiak Island also have interest for tourists, particularly Kodiak which is one of Alaska's oldest towns and which still bears evidence of its Russian past in the Baranof House, the Russian church and displays in its museum. Air and boat charter services are available and special events such as the Kodiak King Crab Festival and the "Cry of the Wild Ram" are of considerable interest to visitors.

Kodiak has expressed interest in increased tourist activity. According to Kramer, Chin and Mayo (October 5, 1977), the Kodiak Chamber of Commerce has created a "visitors and convention bureau" for the purpose of seeking conventions and the development of pre-convention tours in conjunction with the city of Anchorage. In addition, Kramer, Chin and Mayo reported that a tour ship, the Lindblad Explorer, committed itself to three stopovers in Kodiak in 1977 and that visits by a second vessel were likely in 1978. Depending on the success of these visits, tour boat calls at Kodiak could show further increases in the future.

TABLE 93
PASSENGER AND VEHICLE DISSEMBARKATIONS
M/V TUSTUMENA
KODIAK, ALASKA
1970 - 1977

<u>Month</u>	<u>1970</u>		<u>1977</u>	
	P	V	P	V
January	42	28	120	82
February	50	29	182	121
March	LAY UP		198	144
April	98	86	366	214
May	187	103	650	253
June	691	187	875	304
July	245	189	376	142
August	675	216	942	312
September	374	149	565	323
October	117	69	323	308
November	76	45	152	127
December	108	47	174	104
 <u>TOTAL</u>	 <u>2,663</u>	 1,148	 <u>4,923</u>	 2,434

Source: Alaska Department of Transportation and Public Facilities,
Division of Marine Highway Systems.

By far the greatest number of visitors to Kodiak are of the non-tourist variety, primarily people associated with the transient fishing fleets, cannery workers and those from the smaller communities of Kodiak Island. It is assumed that these people will continue to make up the greatest number of visitors to the community throughout the foreseeable future. Nevertheless, some increased tourism in the Kodiak area appears likely during the next twenty years.

MILITARY

The military has been a factor in Kodiak's economy since 1941 when the Kodiak Naval Air Station was established. A naval operating base and submarine base were added in 1974 and Fort Greely, an Army garrison, was also established here during this period. According to Chaffin (1967), there were some 2,500 civilian contract workers in Kodiak, an Army garrison of 7,600 and around 773 Navy men at the peak of wartime activities.

Today, military activities play a significant but much less dominant role in Kodiak's economy. Fort Greely closed with the cessation of hostilities in World War II but the naval base remained. Increases in personnel occurred during the Korean War and again in the early 1960's but World War II total military personnel levels were never again reached. According to Development Research Associates, Inc. (February 27, 1968), there were approximately 2,436 military personnel in the Kodiak area in 1965 but that this had dropped significantly to 1,693 in 1967, plus 313 civilian employees. Naval strength continued to decline after 1967 and

the base was formally closed in 1971, shortly after which it was taken over by the U.S. Coast Guard.

The Coast Guard has been active in the Kodiak area since the summer of 1947 when an air detachment with 37 men and a couple of planes was stationed here. By 1957, the air detachment had assumed several other duties and had 12 pilots and 50 enlisted men. In addition, the Coast Guard cutter, Storis, which currently has a complement of 79 men, was stationed in Kodiak in that year. Coast Guard strength in the Kodiak area continued to increase and, at the time of its takeover of the Navy facility in 1972, approximately 500 military personnel were stationed in the community.

Since 1972, the number of Coast Guard personnel stationed in the Kodiak area has almost doubled. According to Kodiak Coast Guard planners, there are currently about 980 active duty military personnel in this area plus approximately 175 civilian employees. All but about half a dozen military personnel live on base but an estimated half of the Civilian employees live in Kodiak itself. Including dependents, Kodiak has an on-base population of around 2,500 people. This figure includes some other non-military personnel such as employees of the Federal Aviation Administration, the National Weather Service and the National Marine Fisheries Service.

Today, the Coast Guard has ten commands in the Kodiak area. These include the support center, the air station, the Spruce Cape and Narrow

Cape Loran stations, three homeported cutters (the *Storis*, the *Citrus* and the *Confidence*), marine safety, communications and the Loran monitoring station. In terms of employment, the support center (with 292 military and 150 civilian employees), the three cutters (with a combined total of 199 men), the air station (with 351 employees) and communications (with 49 men) are the most significant. However, three other commands: marine safety (1975), the Narrow Cape Loran station (1977) and the Loran monitoring station (1977) have only recently been established. The tenth command, the Spruce Cape Loran station, is scheduled to be phased out as of December 31, 1979. However, since this command has only 8 employees, its closure will have only a very minor impact on military employment in the Kodiak area.

Military-related activities are normally associated with low multiplier factors in terms of their ability to support secondary employment. To some extent, this is true in Kodiak since almost all personnel live on base and have post exchange and commissary privileges. Furthermore, except for education and telephone services, the base makes few demands on local community facilities. Nevertheless, the Coast Guard does have a significant impact on Kodiak's economy in that it is a major civilian employer and that it acts as a support for Kodiak's primary industry, fishing and fish processing. Furthermore, unlike the former Naval station which had few dependents, the Coast Guard base has a large dependent population, some of whom work in town.

According to Kodiak Coast Guard planners, current personnel levels in this area are likely to remain fairly constant in the future. Recent increases in military strength at Kodiak have been primarily in response to the establishment of a 200 mile offshore U.S. territorial limit and to an upgrading of Coast Guard communications systems. Even if commercially significant discoveries of oil and/or gas should be made offshore in this area, no large increases in military personnel at Kodiak are anticipated. In the opinion of Kodiak Coast Guard planners, the base has adequate flexibility to handle such situations without major increases in personnel.

Other

The Kodiak area's economy is overwhelmingly dominated by fishing and fish processing although military-related activities are significant and tourism and recreation has some potential for growth. Other elements in the area's economy include wood products and a very small agricultural industry centered around cattle ranching.

The wood products industry is not important on Kodiak Island. However, nearby Afognak Island presently is within the Chugach National Forest and has a sizable commercial timber resource, estimated by the U.S. Forest Service (July 12, 1974) at 4.6 billion board feet of presently operable sawtimber. Commercial Sitka spruce stands occupy approximately half of Afognak Island's 185,350 hectare (458,000 acre) area. If these stands were managed for sawtimber products, the Forest Service has

estimated that they could sustain an annual cut of approximately 30 million board feet.

Some logging activity has taken place on Afognak Island in the past. During World War II, the U.S. Army logged about 178.1 hectares (440 acres) near Danger Bay and Afognak Bay and the timber was converted to construction lumber at a mill on Kazakof Bay. However, this operation ceased at the end of the War. In the mid 1950's, a small sawmill was built at Raspberry Straits near what was then Afognak village and about 121.4 hectares (300 acres) was logged. This mill (and Afognak village) was destroyed in the 1964 earthquake and was not rebuilt.

A large timber sale on Afognak Island, the 48,563.3 hectare (120,000 acre) Perenosa sale, was held in 1968. Of this area, 8,498.6 hectares (21,000 acres) were to be clearcut. However, no activity on this sale took place until the fall of 1975. Since that time, approximately 7.5 million board feet have been cut for primary manufacture, with about 2 million board feet going to the mill at Jakolof Bay near Seldovia and 5.5 million board feet going to the mill in Seward. An additional 5.5 million board feet have been cut for round log export as the result of an agreement between the Forest Service and the eventual Native landowners. (Privately owned lands are not subject to the primary manufacture before export requirement).

A smaller 6.7 million board feet timber sale at Raspberry Straits was held in November 1971. The successful bidder was Dalmond Valley who

subsequently third parted it to Southcentral Timber Development

Corporation, a Japanese-controlled firm in February 1973. This sale was closed in February 1977.

The future of the wood products industry on Afognak Island is presently obscured by uncertainties as to who will ultimately control the Island's timber resources. Koniag, Inc., the regional Native corporation for the

Kodiak Island area has proposed to select all of Afognak Island except for authorized Native village selections. At the other extreme, non-

village selections, or approximately 125,455.3 hectares (310,000 acres)

are proposed to be transferred to the National Wildlife Refuge System under the terms of H.R. 39 as passed by the U.S. House of Representatives.

If the latter case came to pass, it is assumed that no logging on Refuge lands would take place and the wood products potential of Afognak Island would thus be greatly reduced, as would its potential impact on the economy of the Kodiak area.

Cattle ranching has been a minor element in the economy of Kodiak Island for a number of years. Currently, there are six or seven ranches on the

Island on lands leased from the Bureau of Land Management which support a total of about 2,000 cattle. An approved slaughterhouse facility at Old Woman Bay about 16.1 kilometers (10 miles) south of Kodiak is

cooperatively owned by Kodiak ranchers and was financed by State revolving loan funds. Although this slaughterhouse could probably accommodate several thousand animals, only between 30 and 300 head are slaughtered annually. Carcasses are normally sold locally on Kodiak Island although some are occasionally shipped to Anchorage.

The potential for major expansion of cattle ranching on Kodiak Island appears very limited, at least in the short term. A major deterrent to the upgrading of existing ranches (which are on leased lands) or the establishment of new ones is the uncertain land status situation on Kodiak Island. Another limitation is that Kodiak cattle are presently range fed and their meat does not meet choice grade standards. The land status situation on Kodiak Island will ultimately be resolved and grain substitutes for range feeding may eventually prove feasible. However, while Kodiak cattle ranching has some potential for expansion, it is likely to remain a very minor element in the Island's economy.

Land Use

OVERALL PATTERNS

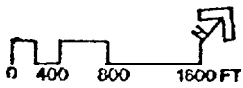
Kodiak's overall land use pattern owes much to its physical setting and to the dependence of its fishing and fish processing industry on a waterfront location. Relief is a major inhibiting factor. Most development has been concentrated in a narrow east-west strip between Pillar Mountain to the north and the water to the south (see Figure 22). However, northeast of town relief is more gentle and the developable strip of land widens from about one-half mile near the center of town to over one mile wide in the vicinity of Mill Bay. East of Pillar Mountain relief is also more gentle and it is here that the Coast Guard base and State operated Kodiak Airport are located.

All three major industrial areas in Kodiak have waterfront locations and all are centered around fishing and fish processing activities. The first area is located at the eastern end of town at Gibson Cove, the second abuts the Inner Harbor just east of the small boat harbor, and the third lies between the small boat harbor and Pearson Cove on Hear Island Channel.

Commercial development in Kodiak is concentrated in the central business district near the small boat harbor, although commercial activity is also scattered randomly through much of the remainder of the developed area with somewhat of a concentration along Mill Bay Road in the vicinity of the municipal airstrip.

Residential development in Kodiak is mostly concentrated in those remaining portions of town where relief and drainage allow - uphill from the commercial district in the Aleutian Homes area and the Erskine Subdivision, along the water in the Mission Road area and upland from Mission Road near Baranof Park. Substantial new construction of single family units is taking place in the Baranof Heights Subdivision near Lilly Lake and outside the City in the vicinity of Mill Bay and Island Lake.

Planning is the responsibility of the Kodiak Island Borough which maintains a Planning Department office in Kodiak. A comprehensive development plan was prepared for the City of Kodiak by the Alaska State Housing Authority before the 1964 earthquake (and before the formation

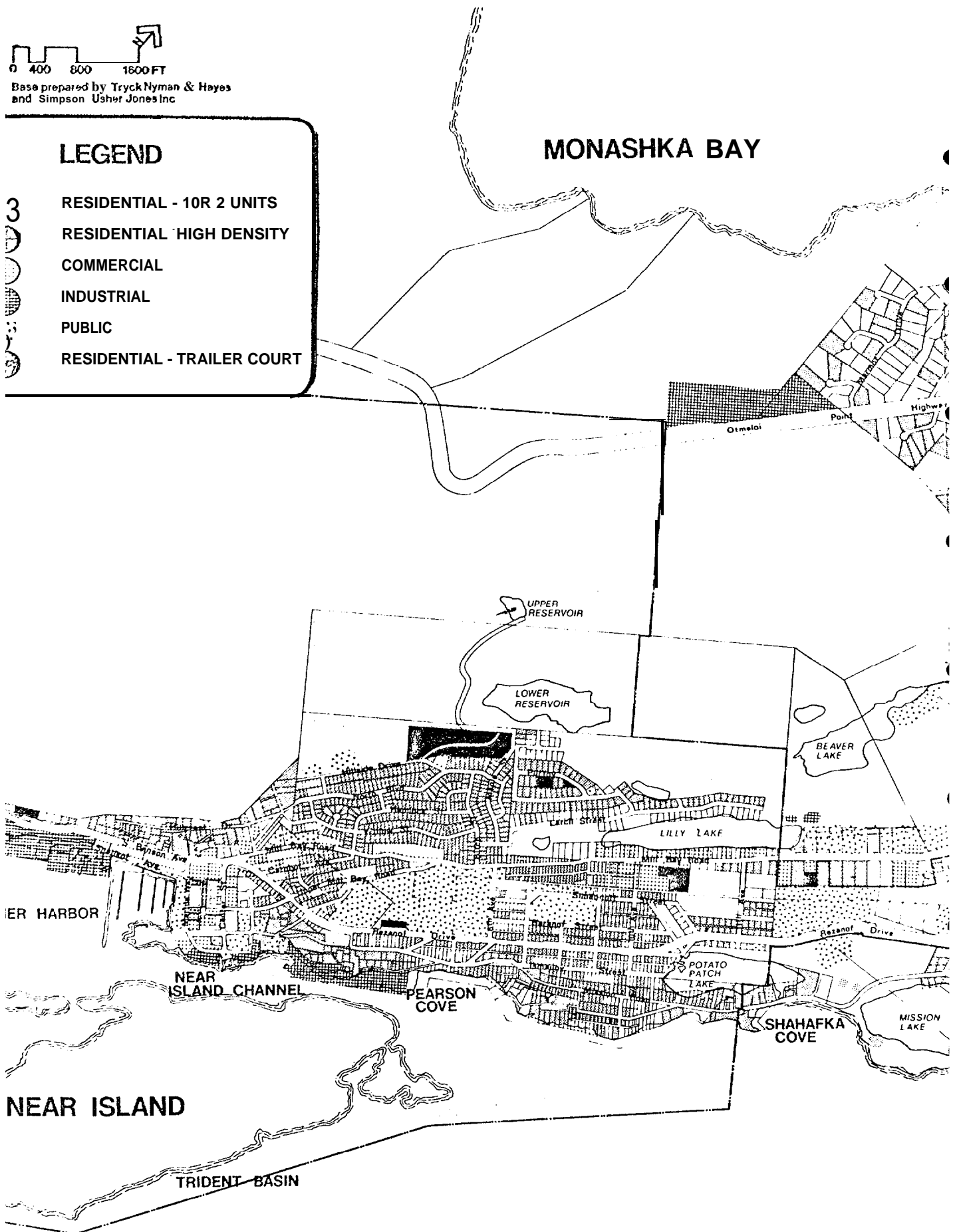


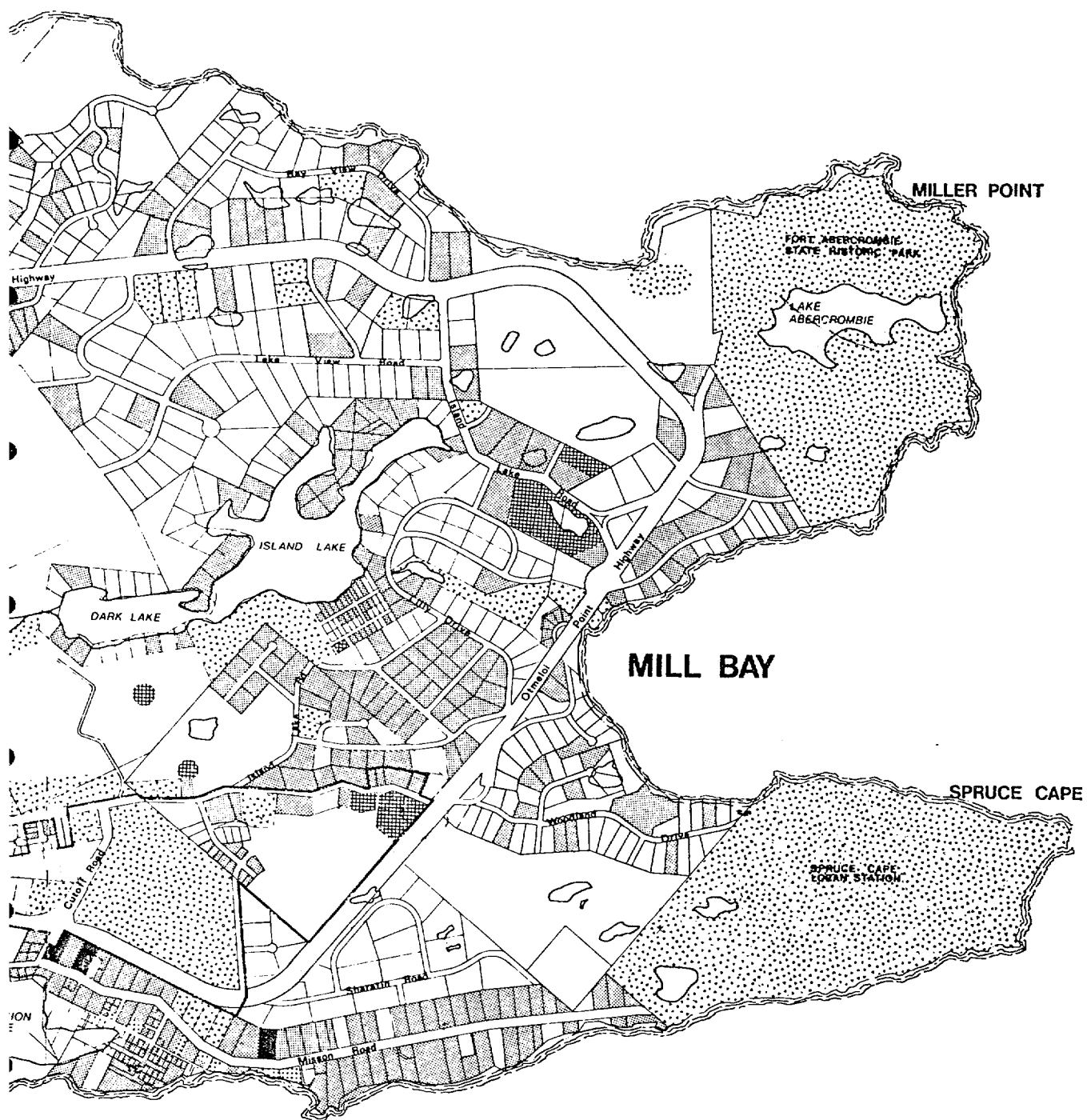
Base prepared by Tryck Nyman & Hayes
and Simpson Usher Jones Inc

LEGEND

- 3 RESIDENTIAL - 10R 2 UNITS
- RESIDENTIAL HIGH DENSITY
- COMMERCIAL
- INDUSTRIAL
- PUBLIC
- RESIDENTIAL - TRAILER COURT

MONASHKA BAY





**kodiak island borough* urban area
regional plan and development strategy**

EXISTING LAND USE

Prepared by Simpson Usher Jones Inc for Kodiak Island Borough
and the Department of Community and Regional Affairs, State of Alaska
July 1978

FIGURE 22

of the Kodiak Island Borough). However, the first Boroughwide plan was prepared by Tryck, Nyman and Hayes in 1968. More recently, a series of planning-related studies have been undertaken for the Kodiak area. Included among these is a two volume study assessing the potential impact on Kodiak of outer continental shelf oil and gas development prepared by Simpson, Usher, Jones, Inc. in 1977; a two volume report on oil terminal and marine service base sites in the Kodiak Island Borough prepared by Woodward-Clyde Consultants in 1977; and a series of studies conducted by Kramer, Chin & Mayo, Inc. designed to arrive at a regional plan and development strategy for the Borough and which were published at various times in 1978.

Kodiak has no coastal zone management program study underway, as such. However, Coastal Zone Management funds have been utilized to prepare the outer continental shelf oil and gas development reports and those assessing potential oil terminal and marine service base sites in the Borough. According to the Community Planning Division of the Alaska department of Community and Regional Affairs, the series of planning-related studies listed above will bring Kodiak into compliance with many of the requirements for a coastal management plan.

Development Constraints

Three natural factors act to constrain development in the Kodiak area. These are steep slopes, water and wetlands, and potential natural hazards. The degree of slope is the primary limiting factor. As slopes steepen,

development costs increase commensurately and access becomes both more difficult and more costly. More buildable land in Kodiak lies on the east side of Pillar Mountain ridge. From here, slopes flatten out progressively toward Spruce Cape, the site of a Coast Guard Loran Station scheduled to be phased out in December 1979.

Lakes, ponds, wetlands and watershed areas take up additional lands in Kodiak. Construction on poorly drained soils requires special engineering considerations and development within watersheds and near lakes and ponds, particularly those used for domestic water sources, must be undertaken so as to protect water quality.

Natural hazards are another potential threat to development in the Kodiak area, particularly in the event of a major earthquake. If such an event should again occur, flooding could be caused by a catastrophic failure of the Lower Reservoir dam or as the result of a tsunami. The area susceptible to flooding from a dam failure lies between the Lower Reservoir and Lilly and Beaver Lakes. Waterfront land below the 9.1 meter (30 foot) contour is susceptible to flooding from a tsunami equivalent in strength to that generated by the 1964 earthquake.

The east face of Pillar Mountain, between the City dock and the City cargo terminal, has been cited as a potential slide zone. A surficial slide occurred here in the early 1970's and destroyed the State Highway. The U.S. Geological Survey has examined the area and determined some degree of movement or slippage, however, measurement of the exact extent of the instability requires further study.

According to Kramer, Chin & Mayo (July 1978), there are approximately 263.1 hectares (650 acres) of undeveloped land in the Kodiak area which is "highly suitable" for residential development, plus 137.6 hectares (340 acres) of "transitional, highly suitable" lands, 129.5 hectares (320 acres) of "limited suitability" lands and another 72.8 hectares (180 acres) of "transitional, limited suitability" lands. Thus, all told, there are about 607 hectares (1,500 acres) of undeveloped land ranging from very suitable to marginal for residential development in this area. Kramer, Chin & Mayo further indicated that there was adequate buildable land in the vicinity of Kodiak to accommodate maximum projected population growth, even in the case of possible OCS development, provided that emphasis was placed on low-rise apartment housing and single family housing on 668.9 square meter (7,200 square foot) lots. Areas considered to have the greatest potential for immediate development were **Baranof** Heights, Beaver Lake, the **Kodiak** Subdivision, Outer Mission Road and Mid-Cape.

Kramer, Chin & Mayo, Inc. (July 1978) also identified several areas in Kodiak which are currently sparsely developed and which contain lands suitable for industrial development. These include the Spruce Cape Loran Station site which is scheduled to be deactivated at the end of 1979 and will probably be declared excess property, the Municipal airport and adjacent land, the Cry of the Wild Ram site, the existing City landfill which will probably be abandoned in the near future, and the VFW site.

LAND STATUS

Perhaps nowhere else in the State is the status of the land presently more in question than in Kodiak. Ownership patterns within Kodiak's corporate limits are reasonably straightforward with the exception of several Native land claims; however, land in the immediate vicinity of the City and, indeed, throughout the islands is subject to conflicting claims by a variety of parties. These include ~~the~~ Kodiak Island Borough, the State, and the federal government, Native regional and village corporations, and, in some instances, private parties who hold tentatively approved homesteads. Some ownership questions will be settled when or if D-2 legislation currently under consideration by the U.S. Congress passes. However, many conflicting claims will undoubtedly not be resolved without prolonged adjudication, litigation or special legislation by the Congress.

Disputed ownership of land is of particular concern in Kodiak which has been growing rapidly and where land for development is in short supply. For example, badly needed improvements to two community services, the water system and the solid waste disposal system, have been delayed because of disputed land title situations. Conflicts such as this are likely to increase in the future as the competition for buildable land becomes more intense. Furthermore, when the status of the land is in doubt effective comprehensive planning is virtually impossible. From a planning viewpoint, just who owns the land is not as important as a clarification of the land status.

Within Kodiak's corporate limits, most developed property is in private ownership, plus a few parcels of State, Borough, and City land devoted to public facilities. City land also includes two large undeveloped areas, one to the north encompassing Kodiak's water source and the other is Near Island located just across the channel from the downtown waterfront area. The status of Near Island, however, is in question. This was patented to the City in the 1960's from tentatively approved State land, but it could be subject to Native claims in the future. The City of Kodiak is entitled to an additional 8.1 hectares (20 acres) of State land under the National Forest community grant selection program.

In the road-connected area outside the City limits, land is in private and State, Borough, and federal government hands. To the east of Kodiak, in the Mission Lake, Mill Bay and Island Lake areas, land is privately owned except for Fort Abercrombie State Park and the Spruce Cape Loran Station. The latter is scheduled to be phased out in December 1979 and may be declared federal excess property, at which time it could be subject to Native claims. To the west of the City, the Coast Guard base is situated on federal land. A portion of this property has been deeded to the State for the Kodiak Airport while additional acreage on the Coast Guard Reserve has been claimed by the Koniag Regional Corporation.

Most of the remaining land in the Kodiak road-connected area is in either Borough or State ownership, although some has been claimed by the Native regional and village corporations. Under the National Forest community grant selection program, the Kodiak Island Borough is entitled

to 22,865.2 hectares (56,500 acres) of State land. As of August 1, 1978, 858.2 hectares (2,120.67 acres) had been patented to the Borough, and an additional 3,107.9 hectares (7,679.65 acres) had been approved, leaving 18,899.1 hectares (46,699.68 acres) yet to be selected. None of these selections are final, however, as they involve State land that is only tentatively approved rather than patented and is, therefore, subject to Native claims.

The remaining two-thirds of Kodiak Island and Uganik Island (roughly 734,500 hectares or 1.8 million acres) comprise the Kodiak Island National Wildlife Refuge managed by the U.S. Fish and Wildlife Service. Within the confines of the Refuge are five Native villages - Larsen Bay, Karluk, Akhiok, Kaguyak and Old Harbor - which will receive various land entitlements within the Refuge under Sections 14(a) and 12(b) of the Alaska Native Claims Settlement Act (see Table 94). Three contested villages of Uyak, Uganik and Ayakulik are also within the Refuge, and their certification depends upon ongoing litigation or legislative action.

The 185,350 hectare (458,000 acre) Afognak Island currently is part of the Chugach National Forest managed by the U.S. Forest Service, however, D-2 legislation currently before the U.S. Congress would withdraw Afognak from Forest Service management and add it to the Kodiak Island National Wildlife Refuge. The D-2 legislation also proposes to include in the Refuge system all islands in the Kodiak archipelago not subject to Native claims or selection by the State.

TABLE 94

VILLAGE CORPORATION ENROLLMENT AND LAND ENTITLEMENTS
KONIAG REGION

Village Corporation	Enrollment	Section 14(a) Land Entitlement	Section 12(b) Land Selection
Afognak (Natives of Afognak, Inc.)	402	55,945.0 ha. (38,240.0 at.)	1,036.0 ha. (2,560.0 at.)
Akhiok (Natives of Akhiok, Inc.)	93	27,972.5 ha. 69,120.0 at.)	1,804.9 ha. (4,460.0 at.)
Anton Larsen Bay (Anton Larsen, Inc.)	32	27,972.5 ha. <u>a/</u> (69,120.0 at.)	<u>h/</u>
Ayakulik (Ayakulik, Inc.)	27	27,972.5 ha. <u>b/</u> (69,120.0 at.)	<u>h/</u>
Bell Flats (Bell Flats Natives, Inc.)	27	27,972.5 ha. <u>c/</u> (69,120.0 at.)	<u>h/</u>
Kaguyak (Kaguyak, Inc.)	54	27,972.5 ha. (69,120.0 at.)	2,849.1 ha. <u>i/</u> (7,040.0 at.)
Karluk (Karluk Native Corp.)	187	37,296.6 ha. (92,160.0 at.)	
Larsen Bay (Nu-Nacht-Pit, Inc.)	203	46,620.0 ha. (115,200.0 at.)	
Litnik (Litnik, Inc.)	37	27,972.5 ha. <u>d/</u> (69,120.0 at.)	<u>h/</u>
Old Harbor (Old Harbor Native Corp.)	334	46,620.8 ha. (115,200.0 at.)	
Ouzinkie (Ouzinkie Native Corp.)	334	46,620.8 ha. (115,200.0 at.)	7,257.0 ha. <u>i/</u> (17,932.0 at.)
Port Lions (Port Lions Native Corp.)	115	37,296.6 ha. (92,160.0 at.)	2,447.6 ha. (6,048.0 at.)
Port William (Shuyak, Inc.)	44	27,972.5 ha. <u>e/</u> (69,120.0 at.)	<u>h/</u>
Uganik (Uganik Natives, Inc.)	31	27,972.5 ha. <u>f/</u> (69,120.0 ac.)	<u>h/</u>
Uyak (Uyak Natives, Inc.)	34	27,972.5 ha. <u>g/</u> (69,120.0 ac.)	<u>h/</u>
Woody Island (Leisnoi, Inc.)	309	46,620.8 ha. (115,200.0 at.)	12,970.9 ha. <u>k/</u> (32,051.0 at.)

a/ Found ineligible as a Village by Secretary decision of Oct. 23, 1974, case now in litigation. If finally determined eligible, entitlement would be 69,120 acres; no entitlement if ineligible.

b/ Found ineligible as a Village by Secretary decision of Oct. 3, 1974, case now in litigation. If finally determined eligible, entitlement would be 69,120 acres; no entitlement if ineligible.

c/ Found ineligible as a Village by Secretary decision of Sep. 20, 1974; case now in litigation. If finally determined eligible, entitlement would be 69,120 acres; no entitlement if ineligible.

d/ Found ineligible as a Village by Secretary decision of Oct. 3, 1974; case now in litigation. If finally determined eligible, entitlement would be 69,120 acres; no entitlement if ineligible.

e/ Found ineligible as a Village by Secretary decision of Nov. 1, 1974; case now in litigation. If finally determined eligible, entitlement would be 69,120 acres; no entitlement if ineligible.

f/ Found ineligible as a Village by Secretary decision of Nov. 1, 1974; case now in litigation. If finally determined eligible, entitlement would be 69,120 acres; no entitlement if ineligible.

g/ Found ineligible as a Village by Secretary decision of June 18, 1974; case now in litigation. If finally determined eligible, entitlement would be 69,120 acres; no entitlement if ineligible.

h/ No entitlement unless and until determined to be an eligible village under ANCSA.

i/ Selection 1 listed is first priority. Second priority is 5,957.1 hectares (14,720 acres).

j/ Selection 1 listed is first priority. Second priority is 7,252.1 hectares (17,920 acres).

k/ Selection 1 listed is first priority. Second priority is 45,872.1 hectares (113,350 acres).

Source: Koniag, Inc.

In addition, Afognak is subject to a multiplicity of conflicting Native, Borough and State claims which together include more acreage than that of the Island (see Table 95). Nor does this include possible entitlements of two contested villages on Afognak, Port William and Litnik which, in the event of certification, would be entitled to an additional 51,898 hectares (128,240 acres).

A Koniag Regional Corporation land adjustment proposed for inclusion in the D-2 legislation attempts to provide a legislative solution to the question of village eligibility and to some land claims as well. In essence, the proposal involves a relinquishment by village corporations of surface selections on the mainland in the proposed Alaska Peninsula Wildlife Refuge and Aniakchak National Monument and the dropping of certain village eligibility litigation in consideration for selection rights on Afognak Island and the ability of Koniag to make 14(h)(8) selections on Afognak. Under the proposal, Koniag would acquire from 101,173.6 to 129,502.2 hectares (250,000 to 320,000 acres) on Afognak for village deficiency lands, the Section 12(b) lands of some villages, and the regional Section 14(h)(8) lands.

There is no certainty that either this or the larger D-2 question will be settled in the near future or, if they are settled, what their final form will be. What is certain, however, is that the overall land status situation on Kodiak Island will in dispute for years to come.

TABLE 95

EFFECT OF TAKING" KONIAG AND KONIAG VILLAGE LANDS
ON AFOGNAK ISLAND INSTEAD OF ALASKA PENINSULA
JUNE 15, 1978

(acres) a/

Koniag Village Land Entitlement on Afognak Island:

a.	Afognak Native Corp. <u>b/</u>	85,120	
b.	Ouzinkie Native Corp.	20,000	
c.	Natives of Kodiak, Inc.	<u>22,000</u>	
	Subtotal		127,120

14(h)(8), 12(b) and Deficiency Entitlements on
Alaska Peninsula:

a.	Koniag, Inc. 14(h)(8) <u>d/</u>	52,531	
b.	Certified village deficiencies	199,860	
c.	12(b)	<u>103,000</u> <u>e/</u>	
	Subtotal		355,391

Other Claims on Afognak Island Land:

a.	State selections	11,000	
b.	Ouzinkie-Kodiak Borough Land Trade	<u>9,000</u>	
	Subtotal		20,000

TOTAL 502,511

APPROXIMATE ACREAGE ON AFOGNAK ISLAND 458,000

a/ Multiply by .4046945 to obtain hectares.

b/ All of Afognak Island is in the Chugach National Forest.

c/ Afognak Native Corporation is the surviving corporation in the merger of Natives of Afognak, Inc. and Port Lions Native Corporation. Natives of Afognak Inc. was entitled to 69,120 acres on Afognak Island and Port Lions Native Corporation was entitled to 16,000 acres on Afognak Island.

d/ Estimate per T.G. Bingham 12/22/77 (see ANCSA Issue Option Paper 12/16/77, p. 4-d-4) less 922 acres on the Kodiak Island Coast Guard Base already made available for Koniag 14(h)(8) selection. Koniag is seeking an additional 2,600 acres from the Coast Guard Base. If this additional land becomes available, the figure will be reduced accordingly.

e/ Figure is from enclosure A-10, BIA Decision, January 19, 1977. It is based on the inclusion of the 7 uncertified Koniag villages involved in the village eligibility litigation. If certified villages only are included, the figure would be approximately 160,000 acres.

Source: U.S. Department of Agriculture, Chugach National Forest. 1978. Draft Environmental Statement, Landownership Adjustment Proposal from Chugach Natives, Inc. and Koniag, Inc. to the Chugach National Forest in Alaska. Anchorage. Series No. R10-35.

HOUSING

An inventory of housing conducted by Simpson, Usher, Jones, Inc. in the summer of 1976 counted 1,973 housing units in the Kodiak road connected area, with an additional 557 units on the Coast Guard station. Excluding Coast Guard housing, 1,141 units, or 57.8 percent, were single family, 515 (26.1 percent) were multifamily units, and 16.1 percent or 317 units were trailers (see Table 96). While the number of multifamily units is higher than the average Statewide, it is not unlike other Alaska coastal towns with large transient populations associated with the fishing and fish processing industry. For example, 28.5 percent of Cordova's housing units were found by Alaska Consultants to be in multifamily structures in 1975.

According to the Simpson, Usher, Jones 1976 inventory, the larger multifamily units in Kodiak are concentrated in the downtown and in the Baranof Heights areas. Roughly 59 percent of the dwelling units in the downtown area were in larger buildings (more than 9 units), while in the Baranof Heights area 31.3 percent of the units were in larger buildings. The Erskine subdivision adjacent to the downtown area has a high percentage of small and medium sized apartment buildings with 43 percent of the dwellings in this area falling into this category.

However, outside these three areas, single family units predominate.

Trailers are most heavily concentrated in the Mission Road area outside the City limits, with the majority being in trailer courts. The Monashka Bay area also has a high percentage of mobile homes, although most

TABLE 96
HOUSING INVENTORY
KODIAK, ALASKA
1976

<u>Housing Type</u>	<u>Number of Units</u>	<u>Percent of Total</u>
Single Family	1,141	57.8
Multi family	515	26.1
Trailers	317	16.1
TOTAL	<u>1,973</u>	<u>100.0</u>

Source: Simpson, Usher, Jones, Inc. 1977. Kodiak Island Borough
Outer Continental Shelf Impact Study, Volume II, Community
Inventory. Anchorage.

trailers in this area are owner occupied and are located on individual lots.

Residential construction activity in Kodiak has increased in recent years. Within the City limits this has involved the addition of several large multi family units in the downtown area, including a project for the elderly, substantial remodeling and additions to homes in the Aleutian Homes area, and the construction of single family units in Baranof Heights. Outside the City, new single family units are more scattered. At the Support Center, the Coast Guard was in the process of adding an additional 32 housing units in the summer of 1978. Despite new construction, however, Kodiak can be assumed to have a zero housing vacancy rate. The lack of housing for plant workers was cited as a problem by most seafood processors in Kodiak and it is apparent that this community has a severe housing shortage, at least seasonally.

A survey of housing conditions undertaken by Simpson, Usher, Jones in conjunction with the housing inventory determined that Kodiak housing is in generally good condition. Excluding trailers, which were not included in the survey, 839 units, or 50.7 percent, were described as being in good condition. Units in "good" condition were defined as new housing in obviously excellent or above average and average condition with no outwardly apparent major structural defects or deficiencies. Some 625 units, or 37.7 percent of the total, were judged to be in fair condition, with "fair" defined as being basically structurally sound units as judged from their outward appearance. The remaining 192 units, (11.6

percent) were determined to be in poor condition, with their structural integrity in questionable condition and requiring major renovation.

By housing type, the larger apartment buildings were found to be in the best condition. About 90 percent of these were in fair condition and none were rated as poor. Single family units had the highest proportion in poor condition (15.3 percent). Most of these were concentrated in the Mission Road area along the waterfront where older housing units are interspersed with industrial uses.

Community Facilities and Services

PUBLIC SAFETY

Police

The Kodiak police department provides police protection within the City from its headquarters on Mill Bay Road in downtown Kodiak. The department is organized into three divisions - the Administrative Division which includes the Chief of Police and a secretary, the Patrol Division which includes a sergeant and 9 police officers and the Service Division which consists of a sergeant, 5 desk officers, a cook and an animal control officer. Support equipment includes 10 radio-equipped cars, a four-wheel drive vehicle and a pickup truck used for animal control.

The Kodiak jail is adjacent to the police department and has cell space for 20 prisoners. The jail has no separate quarters for the detention of women and juveniles, and because of the severely limited space, is not allowed to hold any prisoner for more than 120 days after sentencing.

The police department also administers the Alcoholic Sleep-Off Center located behind the jail. The Center has beds for ten individuals and provides free hot beverages and shower and laundry facilities. Trained personnel provide day and night care. Referrals to the Center are made by a number of local social agencies in addition to the police department, and walk in patients are also accepted. Although administered by the police department, the Center is not a lock up facility; care is on a voluntary basis and patients are free to leave when they wish.

The incidence of crime in the City of Kodiak has fluctuated widely since 1970, making it difficult to determine any coherent trends (see Table 97). The total number of criminal offenses increased by 27 percent from 1970 to 1976, about double the rate of population increase during that time. However, from 1970 to 1971, total criminal offenses declined by 30 percent, while in the next year (1971 to 1972), they increased by 56 percent. Alternating declines and increases occurred through 1976. These fluctuations are almost entirely associated with Part II offenses, or the lesser crimes.

Far more disturbing than the general trend upward of minor crimes is the substantial increase in recent years of Part I offenses. These include criminal homicide, rape, robbery, aggravated assault, burglary, larceny

TABLE 97

CRIMINAL OFFENSES
CITY OF KODIAK
1970-1976

<u>Year</u>	<u>Type of Crime</u>		<u>Total</u>	<u>% Change</u>
	<u>Part I Offenses <u>a/</u></u>	<u>Part II Offenses <u>b/</u></u>		
1970	4	501	505	-
1971 <u>c/</u>	1	352	353	- 30.1
1972	37	504	551	56.1
1973	40	229	269	- 51.2
1974	50	503	553	105.6
1975	53	450	503	- 9.0
1976	91	551	642	27.6

a/ Part I offenses include criminal homicide, rape, robbery, aggravated assault, burglary, **larceny** and motor vehicle theft.

b/ Part II offenses include other assaults, arson, forgery and counterfeiting, fraud, embezzlement, stolen property, vandalism, weapons, prostitution and commercialized vice, other sex offenses, violations of narcotic drug laws, gambling, violations of liquor laws, including drunken driving and disorderly conduct and so forth.

c/ Data for 1971 are incomplete.

Source: Simpson, Usher, Jones, Inc. 1977. Kodiak Island Borough Outer Continental Shelf Impact Study, Volume Two, Community Inventory. **Anchorage.**

and motor vehicle theft. Except for the year 1971 when data were incomplete, police department statistics show an alarming increase in the incidence of Part I offenses. From 1970 to 1976, this type of crime increased from 4 to 91, well over 2,000 percent. According to Simpson, Usher, Jones, Inc. and the Kodiak police department, this increase is related to a number of changes which have occurred recently in Kodiak. Primary among these is an increase in the number of transients. In recent years, local fish processors have become heavily dependent on imported labor which does not become a part of the permanent population. Between 1975 and 1976, when the biggest increase in Part I offenses took place, Kodiak was reportedly also visited by a number of former Pipeline workers from Valdez, Anchorage and Fairbanks in search of employment. Local statistics indicate that there was a higher incidence of criminal offenders in these transient groups than in the indigenous population of the Kodiak area.

Continued increases in crime will obviously result in an increase in Police Department activity. Ultimately, this will mean increases in staff and support equipment and probably an expansion of the jail facility. The existing jail is the only detention center in the Borough and is already badly overcrowded.

The Alaska State troopers are responsible for police protection outside Kodiak's corporate limits. Detachment E which is headquartered in Kodiak covers an area which extends from Naknek and Dillingham to Kodiak and includes most of the Aleutian Chain. In addition to criminal

investigations, the State troopers are charged with responsibility for search and rescue, crash site investigations, administration of the driver licensing and testing program, and assisting State Fish and Wildlife Protection personnel, as needed. Responsibility for driver licensing and testing is Statewide and consequently extends to the City of Kodiak.

In 1976, Detachment E employed 18 people, 8 of whom were stationed in Kodiak. These included 5 troopers, 2 clerks and a pilot who supports both Fish and Wildlife Protection personnel and the troopers. Equipment available for use in the Kodiak area includes two 4-wheel drive vehicles, 3 sedans, a 5.8 meter (19 foot) skiff for use in search and rescue missions, and a Grumman Goose which is also used by Fish and Wildlife Protection officers.

In 1977, Simpson, Usher, Jones, Inc. reported in its Kodiak Island Borough Community Inventory that the Kodiak trooper staff was barely adequate to handle the existing caseload and that 3 additional troopers and 2 supervisors were required simply to respond to the current situation. At that time, trooper personnel also reported the need for a boat substantially larger than the 5.8 meter (19 foot) skiff to provide better search and rescue coverage. In addition, the Grumman Goose was deemed inadequate to meet the full range of needs for the troopers and Fish and Wildlife Protection personnel.

Crime statistics shown in Table 98 are for the entire Detachment E jurisdiction but are adequate to reflect trends in the Kodiak area. As in the City of Kodiak, the incidence of crime in Detachment E trended upward in the 1970-1977 period.

State trooper personnel agree with City of Kodiak police officials that a rapid population increase in the area, particularly population that is transient in nature, will lead to further increases in crime. In such an eventuality, the troopers foresee a need for a larger staff in Detachment E.

A 32 man security force provides police protection and maintains security on the Coast Guard Support Center and surrounding Coast Guard property. Support equipment consists of 8 vehicles, including several conventional patrol cars, a pickup truck, a station wagon and a 4-wheel drive vehicle. The detention facility at the Support Center contains 2 cells practical for only short detention periods. Persons requiring detention for more than 48 hours are taken either to the Kodiak jail or are flown to Fort Richardson or Elmendorf Air Force Base in Anchorage, depending upon the type of crime involved. According to the director of security at the Support Center, serious crime is not a problem. Most offenses are either drug or alcohol related or involve weapons abuse, that is, improper storage of weapons.

TABLE 98

CRIMINAL OFFENSES
DETACHMENT E
1969-1977

<u>Year</u>	<u>Type of Crime</u>		<u>Total</u>	<u>% Change</u>
	<u>Part I Offenses <u>a/</u></u>	<u>Part II Offenses <u>b/</u></u>		
1970	63	124	187	-
1971		180	252	34.8
1972	1;;	121	261	3.6
1973	213	204	417	59.8
1974	169	108	277	- 33.6
1975	83	84	167	- 39.7
1976	155	110	265	58.7
1977	275	163	438	65.3

a/ Part I offenses include criminal homicide, rape, robbery, aggravated assault, burglary, larceny and motor vehicle theft.

b/ Part II offenses include other assaults, arson, forgery and counterfeiting, fraud, embezzlement, stolen property, vandalism, weapons, prostitution and commercialized vice, other sex offenses, violations of narcotic drug laws, gambling, violations of liquor laws, including drunken driving and disorderly conduct and so forth. ,

Source: Simpson, Usher, Jones, Inc. 1977. Kodiak Island Borough Outer Continental Shelf Impact Study, Volume Two, Community Inventory. Anchorage.

Fire Protection

The Kodiak fire department has occupied its present quarters on Benson Street since 1964. In 1970, the department acquired an adjacent building, formerly used by the City Utilities, thus increasing its capacity to 8 vehicles. Fire protection service is provided throughout the City and, when possible, to road connected areas outside the City limits. The State airport and Coast Guard Base north of the City have their own firefighting capability, and this is available to the City in an emergency under a mutual aid agreement.

The Kodiak fire department is manned by 12 salaried and 5 volunteer firemen. Firefighting equipment consists of 5 vehicles: a 1976 American LaFrance snorkel capable of pumping 94.6 liters per second (1,500 gallons per minute), a 1967 Western States pumper with a 94.6 liters per second (1,500 gallons per minute) capacity and a third pumper with a 78.8 liters per second (1,320 gallons per minute) capacity. The Department also has a "quick attack", high pressure unit appropriate for small fires and a late model rescue and salvage van. The quick attack vehicle is reportedly used for 90 percent of Kodiak's fires. The City's two ambulances are also housed in the fire station. The structure is of cement and steel construction and is in excellent condition, although space is limited.

The City of Kodiak has a good Insurance Services Office (ISO) rating. The City proper which is served by a hydrant system and includes 36

sprinklered buildings has a rating of 5, as does the Spruce Cape area which is outside Kodiak's corporate limits but which also has a hydrant system. However, other areas in the road-connected area outside town have an ISO rating of 9.

Kodiak's three reservoirs provide a 946,250 kiloliter (250 million gallon) water supply for firefighting purposes. In the event of a water supply shortage, water to the canneries would be cut off and they would be forced to use sea water, thus providing an additional water supply. The Department's pumping capacity of **220.8** liters of water per second (3,500 gallons per minute) is well over the 157.7 liters per second (**2,500** gallons per minute) recommended by the ISO for cities of Kodiak's size.

Kodiak's major fire problem area is its crowded waterfront. In 1971, approximately 85 percent of the total fire losses resulted from fires on boats (see Table 99). While this percentage decreased in 1972 and 1973, well over half of the total fire loss was associated with boats in 1974. In 1975, a \$1.5 million fire at the Alaska Pacific Seafood cannery accounted for 79 percent of the total fire loss. As a percentage of the total, boat and waterfront fires decreased in 1976 and 1977, nevertheless the waterfront, particularly the small boat harbor, remains a serious fire hazard. According to the harbor master, this problem is directly related to the overcrowded boat harbor where, during the height of the fishing season, boats are moored four and five deep and mobility within the harbor is severely constrained. In such a situation, fire aboard

TABLE 99

FIRE LOSSES
KODIAK, ALASKA
1971 - 1977

<u>Year</u>	<u>Al arms</u>	<u>City</u>	<u>Borough</u>	<u>Boats</u>	<u>Totals</u>
1971	54	\$ 20,955.00	\$ 8,600.00	\$167,500.00	\$ 197,055.00
1972	85	33,033.00	17,800.00	12,970.00	63,055.00
1973	132	86,230.00	6,360.00	8,000.00	100,590.00
1974	127	25,247.18	33,265.10	170,200.00	228,712.28
1975	134	1,881,429.00 <u>a/</u>	6,400.00	3,200.00	1,891,029.00 <u>a_</u>
1976	126	589,374.00	21,800.00	186,600.00	797,774.00
1977	187	106,200.00	130,710.00	180,600.00	417,510.00

a/ \$1,500,000.00 loss caused by arson at the Alaska Pacific Seafood cannery.

Source: Kodiak Fire Department. 1977 Annual Report.

one vessel can quickly spread to others. Alleviation of this problem requires the construction of a new small boat harbor.

According to the fire chief, the department's major fire protection problems are lack of space at the fire station and inadequate salaried manpower. Space limitations require stacking fire equipment one behind the other, and one fire engine is parked in the maintenance area and has to be moved outside when another vehicle must be serviced or repaired. Annexation of additional areas outside Kodiak's corporate limits which will take place in 1979 unless disallowed by the Senate Legislature, could require the acquisition of additional manpower and equipment and would probably necessitate the construction of a substation for the provision of effective fire protection to all areas.

The Coast Guard Base has its own fire protection capability and also serves the adjacent State owned airport with a State owned vehicle manned by Coast Guard personnel. The Coast Guard fire department consists of 32 full time personnel, 29 of whom belong to the service. Firefighting equipment consists of a hodgepodge of new and old vehicles, many of which were inherited from the Navy when the Coast Guard took over the facility in 1972. These include three pumpers with a 31.5 liters per second (500 gallons per minute), 47.3 liters per second (750 gallons per minute), and 63.7 liters per second (1,000 gallon per minute) capacity, respectively; two combination crash/structural pumpers with a combined capacity of 53.6 liters per second (850 gallons per minute); and a crash truck equipped with a 1,514 liter (400 gallon) water tank and 113.6 liters (30 gallons) of foam.

According to the Base fire chief, major firefighting problems are the lack of space in the station and outmoded and incompatible equipment. The fire station is scheduled for remodeling in two phases, the first of which will take place in 1979. At this time, station windows and walls will be replaced and a second floor will be added for storage. Each truck bay will also be provided with water service. Between 1980 and 1983, new and standardized firefighting equipment will be acquired. Standardized equipment will greatly facilitate maintenance and repair. The fire chief also considers the existing 1,135.5 kiloliter (300,000 gallon) water storage capacity to be inadequate and estimates that a 3,785 kiloliter (1 million gallon) capacity is necessary for optimum fire protection.

In addition to fire protection, the Kodiak fire department also provides emergency medical services within Kodiak's corporate limits and to road connected areas outside the City. EMT equipment consists of two vehicles: Medic I was acquired in 1975 and has a patient stretcher capacity of two; while Medic II, purchased by the Borough in 1977 to improve EMT service to the road connected area outside the City, has a patient stretcher capacity of four. Medic I is used primarily for routine service calls of a nonemergency nature, and Medic II is normally reserved for more serious calls. Thirteen fire department personnel are EMT trained. Since 8 of these are salaried department personnel, a complete 2-man ambulance crew is available on a 24 hour basis.

Emergency medical treatment on the Coast Guard Base is provided by the Coast Guard with two late model fully equipped ambulances and trained EMT personnel. Medivac to the Elmendorf Air Force Base Hospital in Anchorage is also available to Base personnel. In addition, the Coast Guard provides search and rescue service for the entire Island area.

HEALTH AND SOCIAL SERVICES

Kodiak Island Borough Hospital

The Kodiak Island Borough Hospital is located within the City limits on Rezanof Drive at the north end of town. Designed to fulfill the hospital needs of the entire Borough, the facility is owned by the Borough and has been operated since May 1978 by the Lutheran Hospitals and Homes Society of America, a nonprofit corporation. Prior to that time the hospital was operated by the Grey Nuns of the Sacred Heart. In September 1978 the hospital had a total of 25 beds; four of these are maternity beds and two are intensive cardiac care beds. A new wing of the hospital scheduled for completion in the near future will accommodate 19 nursing home beds, bringing the hospital's total bed capacity to 44.

In addition to patient beds, the hospital includes a surgery, delivery room, emergency room, a pharmacy, laboratory and X-ray department. Emergency transportation services are provided by two City ambulances manned by EMT trained fire department personnel. The medical staff associated with the hospital includes 5 doctors: an orthopedic surgeon,

a general surgeon, an ophthalmologist and 2 general practitioners, all of whom have offices in downtown Kodiak. In addition, 8 to 10 specialists visit Kodiak regularly and also provide on call assistance from Anchorage. These include specialists in ophthalmology, ENT, radiology, urology, and psychiatry. On occasion, doctors from the nearby Coast Guard hospital are also associated with the hospital on a consulting basis.

The hospital's professional staff includes a director of nursing services, 10 registered nurses, 4 licensed practical nurses, 9 nurses' aides, 3 technicians, a physical therapist, 2 medical records personnel, a purchasing agent and the hospital administrator. An additional 19 persons perform kitchen, laundry, janitorial, maintenance and clerical functions.

Statistics gathered by South Central Health Planning and Development, Inc. indicate that the average length of hospital stay for the Kodiak hospital of approximately 4 days has remained relatively consistent for the last 5 years. While the Kodiak figure is well below the national average, it is similar to like sized facilities around the State. Table 100 shows that between 1970 and 1973 hospital occupancy increased dramatically from a low of 28 percent in 1970 to a high of 92 percent in 1972; however, in recent years occupancy rates have declined from 54.0 in 1973 to 41.7 percent in 1977. This is well below the current national average of about 60 percent for hospitals in the 25 to 49 bed category and would seem to indicate that the Kodiak hospital has adequate room to absorb additional population growth in the community. The major causes

TABLE 100

PATIENT USAGE
KODIAK ISLAND BOROUGH HOSPITAL
1970 - 1977

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Patient Days	2,555	4,243	8,395	4,928	4,745	a/	4,106	3,804
Percent Occupancy	28.0	46.5	92.0	54.0	52.0	a/	45.0	41.7

a/ Data for 1975 not available.

Source: South Central Health Planning and Development, Inc. Anchorage.

for hospitalization are respiratory infections and alcohol related illnesses and accidents.

According to the hospital administrator, the 9-year old facility is in generally good condition, however, the new roof needs replacing and visitor parking is insufficient. The remaining useful life of the building is estimated to be from 30 to 40 years.

Coast Guard Base Hospital

The Coast Guard Support Center Kodiak Hospital provides medical and health services for support center personnel and their dependents and for Coast Guard retirees and their dependents living in the Kodiak area.

This totals about 3,100 people, 30 percent of whom are retirees and dependents. The hospital has 16 beds (2 of which are specifically designated for pediatric patients), 4 incubators and 5 bassinets. In addition to patient beds, the facility has a surgery, labor and delivery rooms, and an emergency and outpatient clinic. Two fully equipped ambulances provide emergency transportation services and emergency medivac to Elmendorf Air Force Base hospital in Anchorage is also available. In addition, the Coast Guard has scheduled biweekly medical flights to Elmendorf.

Four Public Health Service doctors and 2 dentists are assigned to the Support Center Hospital and six specialists from Elmendorf make quarterly or semiannual visits. These are assisted by 5 registered nurses and a

nurse anesthetist who are federal government employees and 26 service personnel who perform all other functions.

Major problems **with** the Support Base **facility** result from **its** advanced age. Originally constructed in 1940, the building is in constant need of repair and has a remaining useful life of 10 years according to a recent study. Additional problems are caused by the frequent relocation of service personnel necessitating almost constant training to maintain the facility at a high standard.

In fiscal year 1977 the outpatient clinic handled 19,693 visits, averaging about 85 visits each working day. Most of these related to immunizations, flight exams, occupational **health** monitoring and well baby examinations. During this same time there were 326 hospital admissions for a total of 1,254 inpatient days. The average length of hospital stay was 3.8 days, substantially lower than the national average and somewhat **lower** than the 1977 average length of stay of about 4 days for the Kodiak Island Hospital. This low figure probably reflects the relatively **young** and healthy population served by the Support Center Hospital. According to the hospital administrator, 95 percent of the hospital admissions result from trauma, respiratory infections or childbirth. Drug and alcohol related **illnesses** or accidents are also a problem. Inpatient and outpatient visits have not changed appreciably during the time that the Coast Guard has operated the facility, but both would be expected to rise if the size of the Support Center itself were **to** increase substantially.

Medical Clinics

In the absense of an outpatient clinic at the Kodiak Island Hospital, outpatient demands are fulfilled by private and public clinics and private practitioners in downtown Kodiak. In September 1978, 5 dentists had offices in downtown Kodiak. The Holmes Johnson Clinic, located in the Kodiak Professional Building, is owned by Dr. Robert Johnson who is assisted by a laboratory technician, a registered nurse, a bookkeeper and a receptionist. The clinic has 3 examination rooms, an office for conferences, a laboratory which processes blood and urine samples and equipment for taking and developing X-rays. The Holmes Johnson Clinic handles an average of 15 patients a day. The most common medical problem treated at the facility is upper respiratory infection.

The North Pacific Medical Center is also located in the Kodiak Professional Building and shares laboratory facilities with the Holmes Johnson Clinic. The Center is owned by Ron Brockman, an orthopedic surgeon, who is assisted by a second orthopedic surgeon, two physicians' assistants and several clerical personnel. The facility has 2 offices, 6 examination rooms and 1 conference room.

The Island Medical Center is a professional corporation with 2 doctors, assisted by 2 registered nurses, a family nurse practitioner, and 2 clerical personnel. The Center has 7 examination rooms where minor surgical and medical procedures can be performed. An average of 30 patients are seen there daily, and again the most common medical problem is upper respiratory infection.

The State of Alaska, Department of Health and Social Services operates the Kodiak Health Center in the Griffin Building, the old Kodiak hospital. Staffed by 3 registered nurses and a clerk/receptionist, the Health Center offers the full range of public health nursing services and also operates 4 clinics. A well baby clinic provides routine examinations and immunizations, and an immunization clinic performs routine childhood and adult immunizations, inoculations for international travel and contagious diseases, and tuberculin skin tests. The family planning clinic distributes educational material and provides health exams and birth control assistance. A fourth clinic offers chest X-rays and assistance with other respiratory problems.

Mental Health and Alcohol Programs

Assistance for mental health problems is available at the Kodiak Aleutian Mental Health Center. Located on Mission Road in the basement of the Griffin Building, the mental health facility is a nonprofit corporation funded with State and Borough funds and with individual health insurance payments. The Center contains a waiting room, a combination reception room/office, 5 offices and a conference room. Space is severely limited and the heating is unreliable. The Center would like to move to larger quarters on the top floor of the building where other social service agencies are located, but funding is not currently available.

Staffing includes 2 clinical psychologists, 2 psychiatric social workers, a mental health associate and 2 office workers. In addition to its 24-

hour crisis intervention and emergency psychiatric hospitalization service, the Center offers four basic programs. An outpatient care program provides services for persons who require ongoing therapy, such as psychotherapy, marital counseling, family counseling and group therapy. Inpatient care is provided at the Kodiak Island Hospital for persons who require short-term psychiatric hospitalization. Patients requiring long-term hospitalization are referred to the Alaska Psychiatric Institute in Anchorage or other inpatient facilities outside the community. A partial hospitalization program is provided for patients who do not need complete hospitalization and who are engaged in part-time programs at the Center. The education and consultation program is a preventive service designed to assist the community to better understand mental health problems and to offer training to staff members of other agencies.

The Health Center staff treats an average of 550 patients a month although this is higher during the winter when school is in session, the weather is bad and the commercial fishing fleet is not as active. Patient caseload is about one-third Native and two-thirds white. The most common mental health problems are depression, anxiety and personal crisis, which were indicated to result from Kodiak's isolated island location, from long periods of inclement weather and from fluctuations in the economy.

The Kodiak Council on Alcoholism, a private nonprofit corporation funded by the State and local governments, is located in the Borough office building. The Council has three facilities in the City of Kodiak.

The Hope House Alcoholism Treatment Center provides a four-week program with after care. It can accommodate 9 men and 2 women. The Sleep Off Center is located behind and is administered by the Police Department, while the Information and Education Center is located on the second floor of the Harbor Master Building. The Center has a library with films, tapes, and literature and a lounge for clients and the general public. The Center is also the location for Alcoholics Anonymous meetings and for counseling sessions with Treatment Center staff.

Public Assistance Programs

A variety of State, local and private agencies offer public assistance in the Kodiak area. Housing assistance is provided by two State agencies - the Alaska State Housing Authority and the Department of Health and Social Services which administers an income maintenance program that provides rent and utility assistance as part of a general relief program. The Kodiak Area Native Association (KANA) administers a housing construction program and several assistance programs for the area's Native population. The aged, the blind, the disabled and dependent children can receive supplemental income from the State Division of Public Assistance and from the Social Security Administration's Supplemental Income program. Food stamps provide additional help. Employment assistance is provided by the Department of Labor's Job Service Center.

Legal assistance is available for those who are eligible through two programs. The Public Defender provides legal representation in criminal matters for those who cannot afford to retain a private attorney.

Alaska Legal Services, a private nonprofit corporation supported by federal, State and private funds, provides legal representation in civil matters. Each office is staffed by one attorney.

Childcare services are provided by two organizations - Headstart and the Kodiak Baptist Mission. Headstart provides nutrition, health and education to preschool age children from limited income families. The Baptist Mission has an extensive program designed to provide care and treatment to children whose families cannot support them. The Mission has two cottages which can accommodate 12 boys and girls between the ages of 6 and 16 on a long-term basis. A third cottage is equipped to provide temporary emergency care to 14 children ranging in age from infancy to age 16.

EDUCATION

Kodiak has an extremely wide range of educational programs. These include the federally funded Headstart program for preschool age children from limited income families and St. Mary's Parochial School which offers grades 1 through 8. Higher education facilities in Kodiak include the Community College and St. Herman's Theological Seminary. The Kodiak Community College is housed in one building on an 8 to 12 hectare (20 to 30 acre) campus north of town. In the spring of 1978 a total of 910

students were enrolled at the College and the staff was comprised of 8 full time and 40 part time teachers. St. Herman's was established in 1973 to train Alaska Native clergy and other church workers for the Orthodox Diocese of Alaska.

As a second class borough, the Kodiak Island Borough is responsible for the construction, maintenance and operation of the public school system throughout the Borough. The Borough operates a total of 13 schools. This includes 8 village schools and 3 elementary schools, a junior high school and a senior high school in the City of Kodiak. Although the Kodiak Aleutian High School was originally designed to be the secondary facility for the entire Borough, the Borough has recently begun to provide secondary education programs in the villages as well. High schools are currently under construction in Old Harbor and Port Lions and in 1978 the State Legislature authorized funding for the construction of secondary schools in Ouzinkie and Larsen Bay. Grades kindergarten through 11 are currently offered in Akhiok and, according to the Borough School District, a full secondary program will be offered in that village in the near future. Although there are no plans to construct secondary facilities in Karluk and Chiniak in the near future, there may eventually also be secondary programs in those two locations. Until all of these programs are operational, however, village high school students will continue to attend the Kodiak Aleutian High School.

Administratively, the Borough public school system is divided on an elementary (kindergarten through the 6th grade), junior high (grades 7

and 8) and high school (grades 9 through 12) basis. Only in the City of Kodiak, however, do the school physical plants coincide with this administrative breakdown. In most villages, all grades offered are in the same plant although this will change when new secondary facilities have been constructed.

Elementary School Facilities

Elementary school students in Kodiak attend one of three public schools: East Elementary School which is located on Rezanof Drive, Peterson Elementary School which is near the Coast Guard Base and accommodates students from that facility, and Main Elementary School which is part of the school complex located near the Borough and City office buildings. Together these schools have a total of 52 teachers, including 4 resource teachers and 3 speech and hearing specialists, and 65 classrooms.

East Elementary has 20 classrooms, including a library and multipurpose room which is used for eating, physical education and other group activities, and an outdoor playground. A portable trailer adjacent to the school is used for special education classes. Peterson Elementary School has 25 rooms, including a gym, a library, a multipurpose room also used for eating, and an outdoor playground. The Main Elementary School and junior high complex has 40 rooms, 20 of which are used by elementary students. Included in this number are a gym, a library and multipurpose room used by both schools. The outdoor playground is also shared.

Elementary school classroom densities average from 20 to 25 students, about normal for the larger school systems in the State. According to School District personnel, Kodiak's elementary schools are currently operating at capacity and substantial increases in Kodiak's population could require the construction of new elementary facilities at Monashka Bay and Bells Flat, both fast growing residential areas.

School District maintenance personnel reported to Alaska Consultants that the elementary school physical plant ranges from marginal to good condition. East is approximately 15 years old and is in good condition. Peterson, which is well over 20 years old, has been extensively renovated and is also in good condition. However, Main Elementary School which is also over 20 years old is in marginal condition and deteriorating rapidly. An engineering study to be completed in October 1978 is addressing the comparative costs of replacing or renovating the Main facility. Regardless of the study's findings, however, it is obvious that the plant will require substantial investment in the next several years to bring it up to operating standards.

Junior and Senior High School Facilities

All Kodiak 7th and 8th graders attend Kodiak Junior High School located in the school complex adjacent to the Borough and City office buildings. The Junior High School has 18 teachers, including a resource teacher, a counselor and a special education teacher. Twenty of the 40 rooms in the combined elementary and junior high complex are dedicated specifically ,

to 7th and 8th grade classes. In addition to regular classrooms, these include a special education room and a shop area where nonindustrial vocational trades such as woodworking, metal work, **leathercraft**, and home economics are taught. Junior high students share gym, multipurpose room and library facilities with the Main Elementary School. According to the School District, junior high classes average about 20 students a room, and it is estimated that the facility is at or just under capacity.

Sharing as it does the same facilities, the Junior High School suffers from the same physical plant problems as Main Elementary School and will have to be extensively renovated or entirely replaced in the near future.

Kodiak Aleutian High School was constructed in 1973 although the vocational education wing dates from 1967. The high school is located on Rezanof Drive close to the Junior High School and Main Elementary School. In September 1978, high school students occupied a total of 28 classrooms. Twenty of these are regular classrooms and 8 are vocational education shops or laboratories where classes in welding, auto mechanics, small engine repair, electronics, physics, biology and chemistry are held. There are 42 teachers in the high school, consequently, with a final enrollment of 502 students in 1977/78 there is a current student to teacher ratio of approximately 12 to 1.

In addition to classrooms, the **high** school contains a gymnasium, cafeteria, library and swimming pool although the latter was closed for repairs in September 1978. A dormitory owned by the Borough and operated by the

Kodiak Area Native Association is located on the school grounds and provides living quarters for boarding students from village schools.

The school plant is in good physical condition and is large enough, according to School District personnel, to accommodate double its current enrollment without excessive crowding. This could be accomplished by moving partitions to make smaller classrooms. Although the school is in good condition, however, there are several deficiencies. The high school does not have home economics facilities, and these classes are currently held in the adjacent junior high school. Also, as presently designed, the chemistry/physics laboratory can accommodate only 12 students at one time and needs to be expanded.

Enrollment Trends

Although Kodiak's population has increased since 1970, total school enrollment has declined by 23 percent during this period. By far the largest decline has taken place in the elementary school population. Table 101 shows that in the 1970/71 school year there were 1,284 elementary school students, whereas in 1977/78 there are only 971 students, a decline of 24.4 percent. During this same period junior high enrollment declined by 22.4 percent and high school student enrollment by 20.6 percent. The high school decline can be explained in part by the gradual introduction of secondary programs in the villages thereby reducing the number of boarding students, but the general downward trend in Kodiak school enrollment probably results from the fact that here, as elsewhere in the State and nation, the birth rate has declined.

TABLE 101

ENROLLMENT TRENDS
KODIAK, ALASKA
1970/71-- 1977/78

School Year	Grades K - 6		Final Enrollment Grades 7 - 8		Grades 9 - 12		Total
	Number	% of Total	Number	% of Total	Number	% of Total	
1970/71	1,284	57.9	303	13.6	632	28.5	2,219
1971/72	1,214	58.2	290	13.9	582	27.9	2,086
1972/73	1,140	58.0	297	15.1	529	26.9	1,966
1973/74	1,078	56.7	319	16.8	504	26.5	1,901
1974/75	1,061	56.5	320	17.1	496	26.4	1,877
1975/76	1,003	55.6	283	15.7	517	28.7	1,803
1976/77	1,012	56.0	281	15.6	514	28.4	1,807
1977/78	971	56.8	235	13.8	502	29.4	1,708

Source: Kodiak Island Borough School District.

RECREATION

With the exception of two federal reservations, the Chugach National Forest and the Kodiak Island National Wildlife Refuge, most recreation facilities within the Kodiak Island Borough are in the City of Kodiak or are accessible from the road-connected area. Most of these are provided by either the State, Borough or City governments or nonprofit groups, although a privately owned bowling alley and movie theatre are patronized by local residents and a number of bars, some with dancing and live entertainment, serve as popular recreation-related centers. Churches and fraternal organizations such as the Masons, Elks, American Legion and the Veterans of Foreign Wars also provide recreation programs for their members. As is true in most of rural Alaska, recreation facilities in the villages are limited to those connected with the schools. The Coast Guard Support Center has extensive recreation facilities and programs, but these are not available to nonservice personnel.

The City of Kodiak has a well organized and active Parks and Recreation Department which operates several facilities and provides a wide variety of recreation programs. In September 1978, the Department had three permanent employees - a director, an assistant director and a part-time manager of the Teen Center. These are augmented at various times by volunteer and temporary employees who assist with the Department's sports programs. Park maintenance and janitorial personnel are currently funded through the Neighborhood Youth Corps and CETA programs. In

1978/79 the Parks and Recreation Department had a proposed operating budget of \$111,802, of which nearly 82 percent was devoted to staff salary and benefits.

The Parks and Recreation Department operates five facilities within the City limits. The 2.8 hectare (7 acre) **Baranof** Park includes football and baseball fields, a track, 4 tennis courts, 3 volleyball courts, a basketball court, a children's playground with assorted equipment and a popular wooded picnic area. **Baranof** Park also houses the Parks and Recreation Department building.

In the summer of 1977 the City completed three so called "mini-parks" located on Hillside Drive and on Larch and Spruce Streets. Hillside Park was designed primarily to meet the needs of the under 12 set and includes playground equipment, a designated hill for winter sliding and a ball field. The Larch and Spruce Street facilities both have children's play equipment and the latter park also has a paved basketball court.

The Teen Center is a 12.2 meter by 18.3 meter (40 foot by 60 foot) building located in downtown Kodiak. The building has a large dance floor, a kitchen, 2 bathrooms, storage space and a small office for the director. Teen Center equipment consists of pool, ping pong and foosball tables, a TV and a reel to reel tape recorder. The Teen Center is open afternoons and early evenings for general socializing while weekly dances attract as many as 200 teenagers.

Parks and Recreation programs rely heavily on Borough School District facilities. These include the high school gym which has two full-sized basketball courts, a gymnastics and wrestling area, a weight lifting room and a 6-lane, 22.9 meter (25 yard) long swimming pool. The swimming pool was closed for repairs in September 1978 but will be reopened in the near future. Additional facilities which are heavily used for recreation programs are the Junior High gym, stage and wrestling room and a classroom and multipurpose room at East Elementary School.

In 1977, the Parks and Recreation Department sponsored 28 different programs involving between 1,500 and 2,000 people. Sports programs are particularly popular and include youth basketball for youngsters aged 8 to 15, City league basketball and volleyball, slow break basketball for older men, ladies basketball, badminton, tennis lessons and tournaments and Amateur Athletic Union programs in wrestling and swimming. Although softball and baseball leagues are not sponsored by the City, the Department does maintain and prepare fields in Baranof Park for 5 senior league teams, 2 American Legion teams, 5 women's and 8 men's softball teams, totaling more than 200 players. In the winter, the City sponsors cross country skiing classes in Baranof Park.

The Parks and Recreation Department maintains an extensive swimming program at the high school pool. The swimming program includes open swims, ladies night, adult and family swims, lap swims, synchronized swims and a wide range of swimming lessons ranging from lessons for tiny tots to the Red Cross Water Safety Instructor's program. Approximately

50 women participate in the ladies' night at the gym and in exercise groups. An additional 30 to 60 people utilize gym facilities week nights and weekend afternoons in connection with the open swim program.

Two summer youth programs are especially popular. The special recreation program for the mentally handicapped runs for 6 weeks and involves swimming, arts and crafts, bowling, reading, and cooking. The Youth Summer Program runs four mornings a week for 6 weeks and involves 175 children from 4 to 13 years of age. Finally, the City sponsors a number of activities during the annual spring Kodiak Crab Festival. In 1978, approximately 100 people participated in eight separate Crab Festival games.

The Kodiak Island Borough adopted **non-area-wide** parks and recreation powers in the fall of 1976. These powers are restricted to the portions of the Borough outside the City of Kodiak's corporate limits. Since 1976, the Borough has been involved in developing a comprehensive parks and recreation plan to determine the types and locations of facilities and programs to be provided by the Borough. A draft of this plan was published in May 1978, and a final report is anticipated in the late fall of 1978.

In September 1978, Borough recreation facilities were limited to those in the schools. In addition, the Borough leases land to the Girl Scouts at Beaver Lake and to the Boy Scouts at Island Lake for campgrounds and to the Veterans of Foreign Wars at Monashka Bay for a pistol and rifle range.

The Fort **Abercrombie** Historical Site is the only State park facility on Kodiak Island. Located on a 284.6 hectare (780 acre) parcel north of town at **Miller** Point, the site contains abandoned World War 11 military fort and gun emplacements although these are in a deteriorated condition as a result of weathering and vandalism. The park is furnished with 7 camp sites, 5 picnic tables and several restrooms. Fishing, camping, and swimming are all popular activities here. Maintenance of the facility is reportedly poor, however.

A major share of the recreation activities in which Kodiak residents engage do not depend upon the presence of formal facilities but rather on the land and waters that surround the area. A survey of recreation preferences conducted by Kramer, Chin & Mayo, Inc. in 1977 found that sport fishing and hunting, 'picnicking, hiking, **boating** and subsistence food gathering were among the most popular recreation activities in Kodiak.

The Kodiak Island National Wildlife Refuge and **Chugach** National Forest under the jurisdiction of the federal government offer a variety of outdoor recreation activities. The Wildlife Refuge which takes up 7,252 square kilometers (2,800 square miles) on Kodiak and **Uganik** Islands was established in 1941 to protect the natural habitat of the Kodiak brown bear and other wildlife. In **addition**, the lakes and streams of the Refuge support **large** rainbow and Dolly Varden trout, **grayling**, salmon and steel head populations.

Both sport hunting and fishing are allowed in the Refuge in accordance with Alaska Department of Fish and Game regulations. The U.S. Fish and Wildlife Service maintains 7 recreational cabins in the Refuge and commercial bear guiding outfits operate an additional 6 cabins. While sport hunting and fishing are the most intensive uses of the area, participation estimates developed by Kramer, Chin & Mayo (May 1978) indicate that wildlife observation, photography, camping, canoeing, boating, rafting and hiking are also popular (see Table 102).

The 185,350 hectare (458,000 acre) portion of the Chugach National Forest on Afognak Island also offers excellent sport fishing, hunting and hiking opportunities (see Table 103). The Forest Service maintains four recreational cabins and 9 miles of wilderness trails in the Forest. Four commercial guiding outfits operate photography, fishing, and hunting excursions on the island.

Despite the wide variety of recreational opportunities in the Kodiak area, except for the schools and Teen Center, these are outdoors and depend largely on good weather which is in short supply in Kodiak. In 1977, Kramer, Chin & Mayo, Inc. conducted a survey in Kodiak to determine recreation preferences and perceived community needs. The survey found that the community's top priority was an indoor recreation center which could accommodate such indoor activities as roller and ice skating, handball/raquetball, tennis, volleyball, weight lifting, and a sauna. A combination cultural center/theatre for concerts, plays, crafts, films, dances, concerts and lectures was a close second.

TABLE 102
PARTICIPATION ESTIMATES
KODIAK ISLAND NATIONAL WILDLIFE REFUGE
1977

<u>Activity</u>	<u>Activity Hours Per Year</u>	<u>Percent of Total</u>
Hunting migratory birds	10,270	5.3
Hunting resident game <u>a/</u>	80,020	41.1
Sport fishing	40,400	20.7
Wildlife observations <u>b/</u>	16,800	8.6
Photography <u>b/</u>	2,200	1.1
Camping	30,220	15.5
Other consumptive recreation <u>c/</u>	8,200	4.2
Wildland appreciation <u>b/ d/</u>	6,800	3.5
<u>TOTAL</u>	<u>194,910</u>	<u>100.0</u>

a/ Resident game hunting, due mainly to an expanding deer population, is increasing each year.

b/ Photography, canoeing and rafting, wildlife observation, and hiking are showing a steady increasing trend of visitor use.

c/ Activities include clam digging, etc.

d/ Activities include canoeing, boating, rafting, hiking, etc.

Source: Kramer, Chin & Mayo, Inc. May 1978. Draft Kodiak Island Borough Comprehensive Parks and Recreation Plan. Seattle.

TABLE 103

FOREST SERVICE RECREATIONAL CABIN USE
AFOGNAK ISLAND
1977

<u>Cabin Location</u>	<u>Main Recreation Activity</u>	<u>Visitor Days</u>	<u>% Capacity</u>
Upper Malina Lake	Bear, elk hunting, fishing	300	36.4
Afognak Lake	Bear, elk hunting, fishing	500	27.3
Pillar Lake	Elk, bear, deer hunting, beachcombing	400	21.8
Portage Lake <u>a/</u>	Bear, elk hunting, fishing	300	16.4
Waterfall Lake	Elk , bear, deer hunting	300	16.4

a/ No longer in use.

Source: U. S. Forest Service, Chugach National Forest.

The City's 1978/79 Capital Improvements Program includes a \$4 million cultural facility which is dependent upon passage of a November 1978 State bond issue and the acquisition of sufficient land. The City has preliminary approval from the University of Alaska to build the facility on community college land and is considering implementing a hotel tax if local matching money is required. The 1978/79 CIP also includes a \$125,000 indoor recreation facility with funding to come from the City, the Rotary Club, the State and perhaps the Borough School District. Other recreation and park projects planned by the City are a new softball field (1978/79) and walking, ski and bike trails and a new park facility (1980/81).

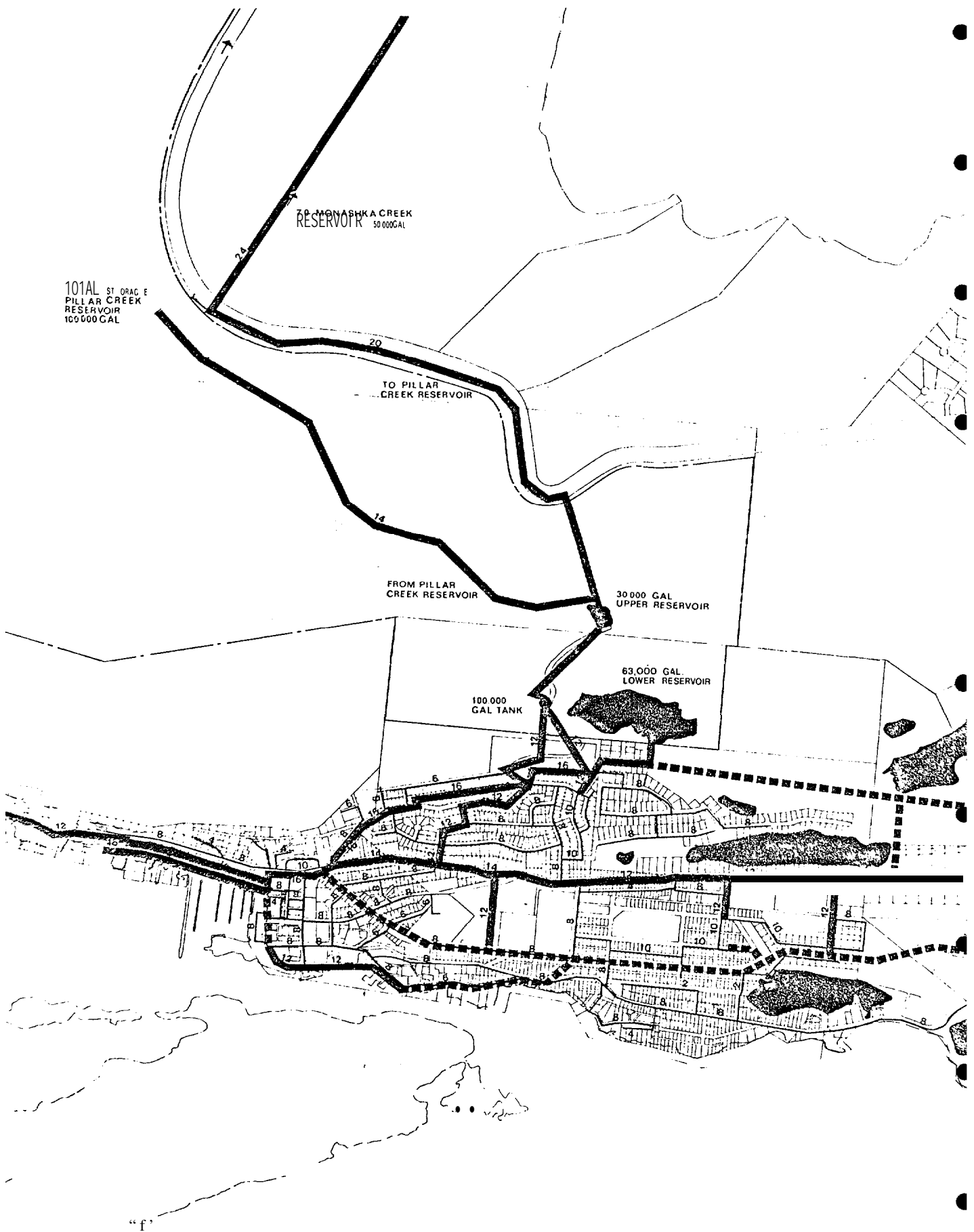
UTILITIES

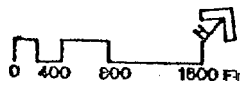
Water

Kodiak presently derives its water from two surface sources, Pillar Creek and Monashka Creek. One reservoir on Monashka Creek and four reservoirs on Pillar Creek together provide approximately 1,336,105 kiloliters (353 million gallons) of storage capacity. All water is chlorinated before it enters the distribution system. Water service is provided within the City limits and outside the City to Mill Bay Road and the Spruce Cape Loran Station northeast of town and as far south of town as Gibson Cove (see Figure 23). According to Kodiak's Superintendent of Public Works, the City currently sends out about 1,300 billings for water services but he indicated that this is less than the total number of hookups to the system as there are a number of multiple billings.

Water consumption in Kodiak varies from 11,355 kiloliters (3 million gallons) per day when the major seafood processing plants are not operating to 45,420 kiloliters (12 million gallons) per day in July and August at the height of the fish processing season. Assuming that there are approximately 5,300 people served by the water system (based on population estimates developed by Kramer, Chin & Mayo for various neighborhoods in Kodiak and the surrounding area) and assuming that these people each consume an average of 473.1 liters (125 gallons) per day, residential consumption ranges from about 22 percent down to 5 percent of the total demand placed on Kodiak's water system. During peak consumption periods, the system operates at design capacity and when stream flow is low, there are water shortages. This poses a threat to fire protection and raises the possibility of large fish product losses during peak harvests. It also discourages the construction of new water dependent industry and residential development.





Studies undertaken by the City of Kodiak have determined that expansion of the water system requires construction of a dam at **Monashka** Creek. Engineering studies for this project have already been completed, and a 61 centimeter (24-inch) transmission line has been installed, however, a dam and reservoir cannot be constructed until a dispute between the **Ouzinkie Native** Village Corporation and the City over ownership of the **Monashka** Creek watershed has been settled. If the ownership question is resolved and construction of the **Monashka** Creek dam proceeds, the storage capacity of this drainage would be increased to 2,028,760 kiloliters (536 million gallons). Additional improvements could increase

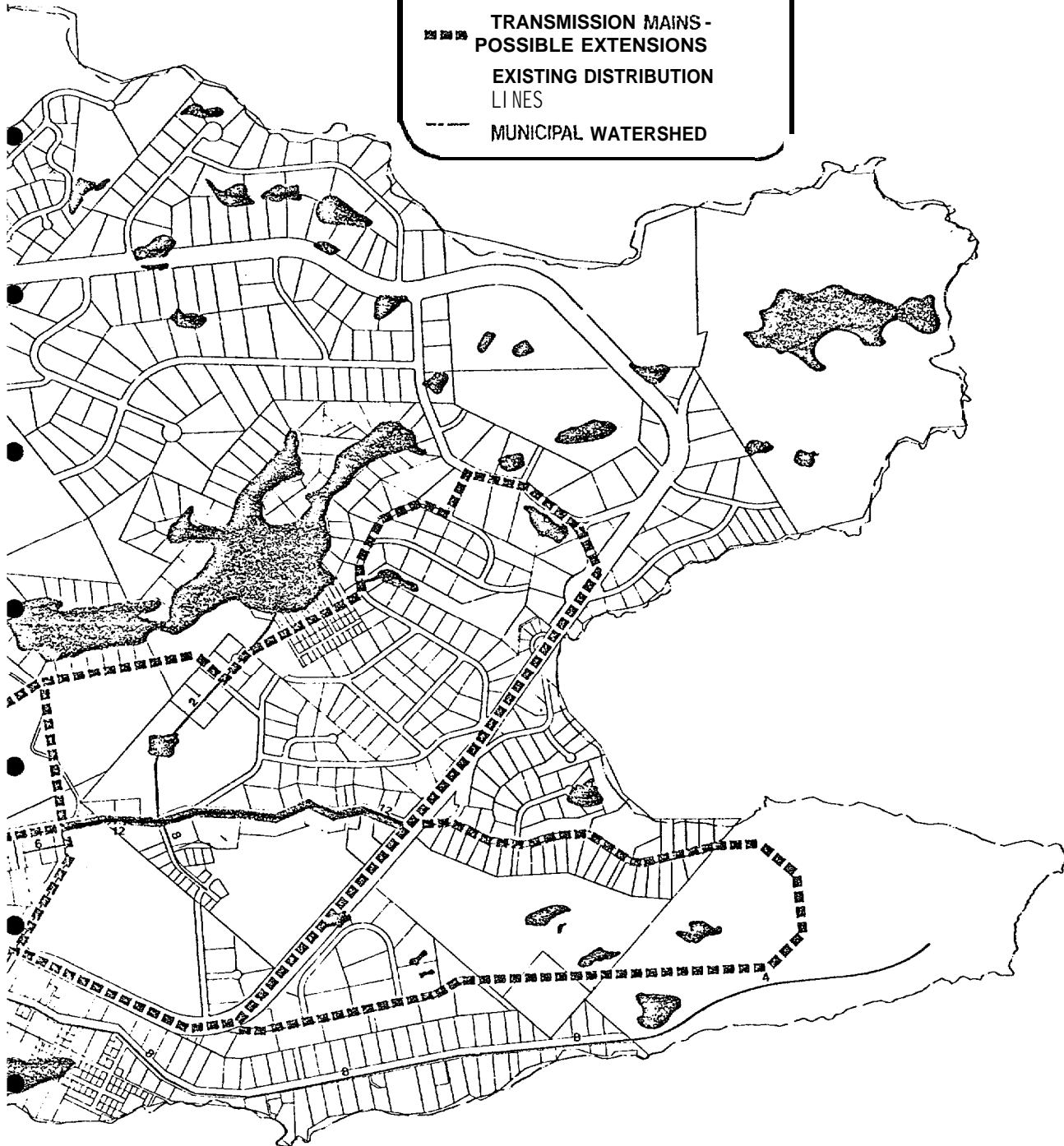




Base prepared by Tryck Nyman & Hayes
and Simpson Usher Jones Inc

LEGEND

-  EXISTING TRANSMISSION MAINS
-  TRANSMISSION MAINS - POSSIBLE EXTENSIONS
-  EXISTING DISTRIBUTION LINES
-  MUNICIPAL WATERSHED



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WATER SYSTEM

July 1978

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Prepared by Kramer, Chin & Mayo, Inc. for Kodiak Island Borough
and the Department of Community and Regional Affairs, State of Alaska

FIGURE 23

storage capacity to as much as 26,495,000 kiloliters (7 billion gallons).

Water transmission lines are currently inadequate to meet peak water demands, particularly in the downtown area where most of the processing plants are located. Currently, water lines are being excavated and replaced with larger lines to increase their capacity; eventually, however, when storage and supply have been increased, the City will have to provide additional transmission lines.

The Coast Guard Base obtains its water from Buskin Lake. Water is stored in five reservoirs, two of recent construction which together hold 3,785 kiloliters (1 million gallons) and three older reservoirs also with a 3,785 kiloliter (1 million gallon) capacity which will be phased out in the near future. Additionally, the Base has another 3,785 kiloliter (1 million gallon) storage tank for the power plant and an old 757 kiloliter (200,000 gallon) tank for "deluge" fire protection. The latter tank leaks and needs replacing. Water is chlorinated and fluoridated before it enters the system.

The Coast Guard system serves the entire support center complex except for the Communications Station and the Holiday Beach Receiver Site which are served by wells. The Base system also serves the State owned airport which was originally part of the military facility.

Normal consumption is about 8,516.2 kiloliters (2.25 million gallons) per day, although it has gone as high as 11,355 kiloliters (3 million

gallons) per day which overburdens the pumping and treatment systems.

These were constructed in the early 1940's and are scheduled for replacement in 1980. According to the Coast Guard utilities director, the remaining weak point in the system is the single main which distributes water to the power plant and airport and which is extremely vulnerable in the event of an earthquake or other disaster; however, there are no current plans to provide an additional main.

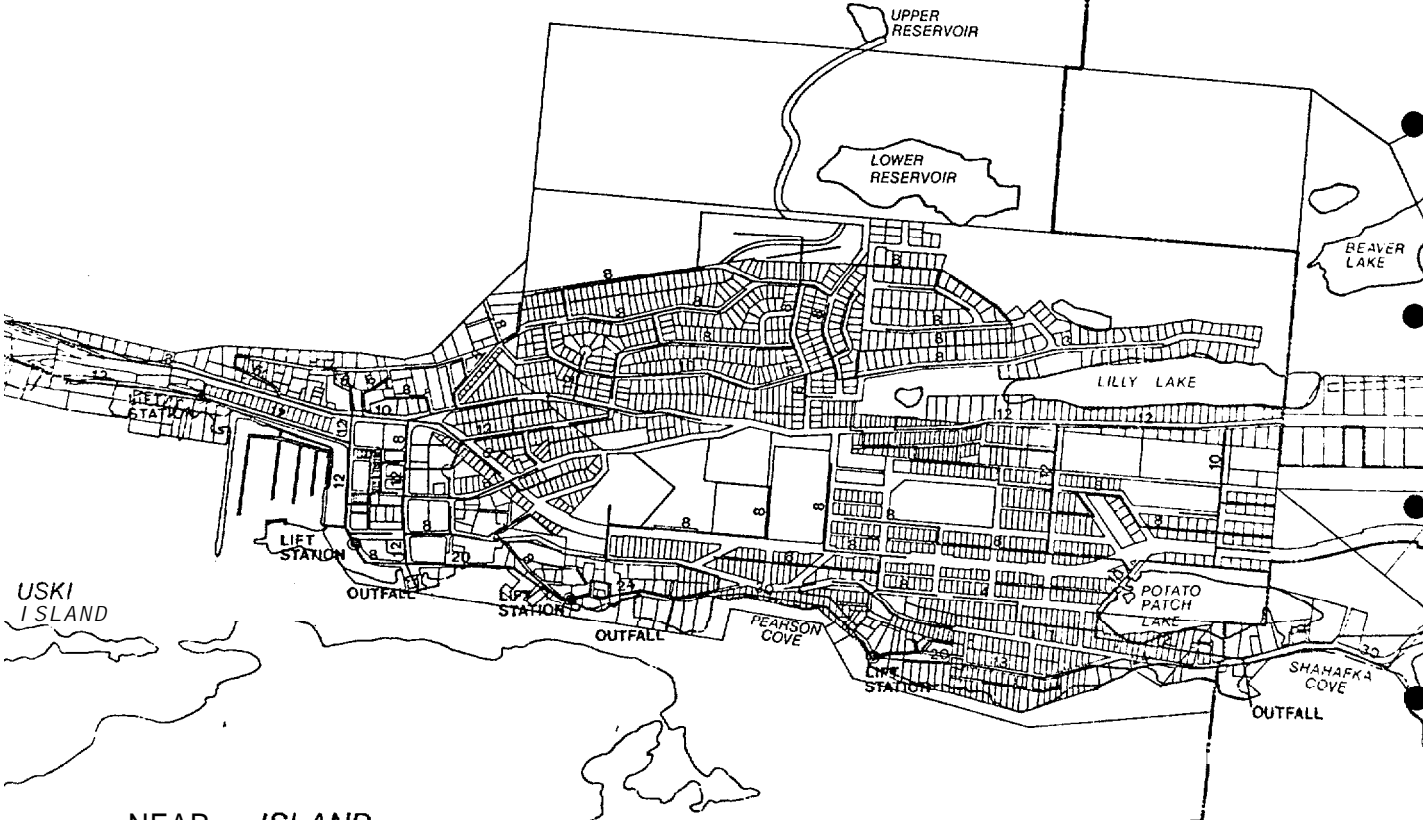
Sewer

The City sewer system is confined primarily within Kodiak's corporate boundaries but does extend out east of town into the Mission Lake and Kodiak Subdivision areas (see Figure 24). The system also accommodates domestic waste from the processing plants but industrial wastes are hauled by truck to the Bio-Dry plant where they are converted to fertilizer and meal.

The capacity of the sewer system is reportedly adequate to meet existing demands from the area it serves. However, a feasibility study is now being prepared for the possible extension of service to Island Lake. Residents here are presently using on-site disposal systems and the drainage basin is experiencing water quality problems. Provision of sewer service to this area would also make possible service to the undeveloped Spruce Cape and Rezanof Extension areas. Another likely area for service expansion is the municipal airport area. A separate storm sewer system serves the improved road area within the City limits (see Figure 25). Storm water goes directly into the sea without prior treatment.

MONASHKA B.

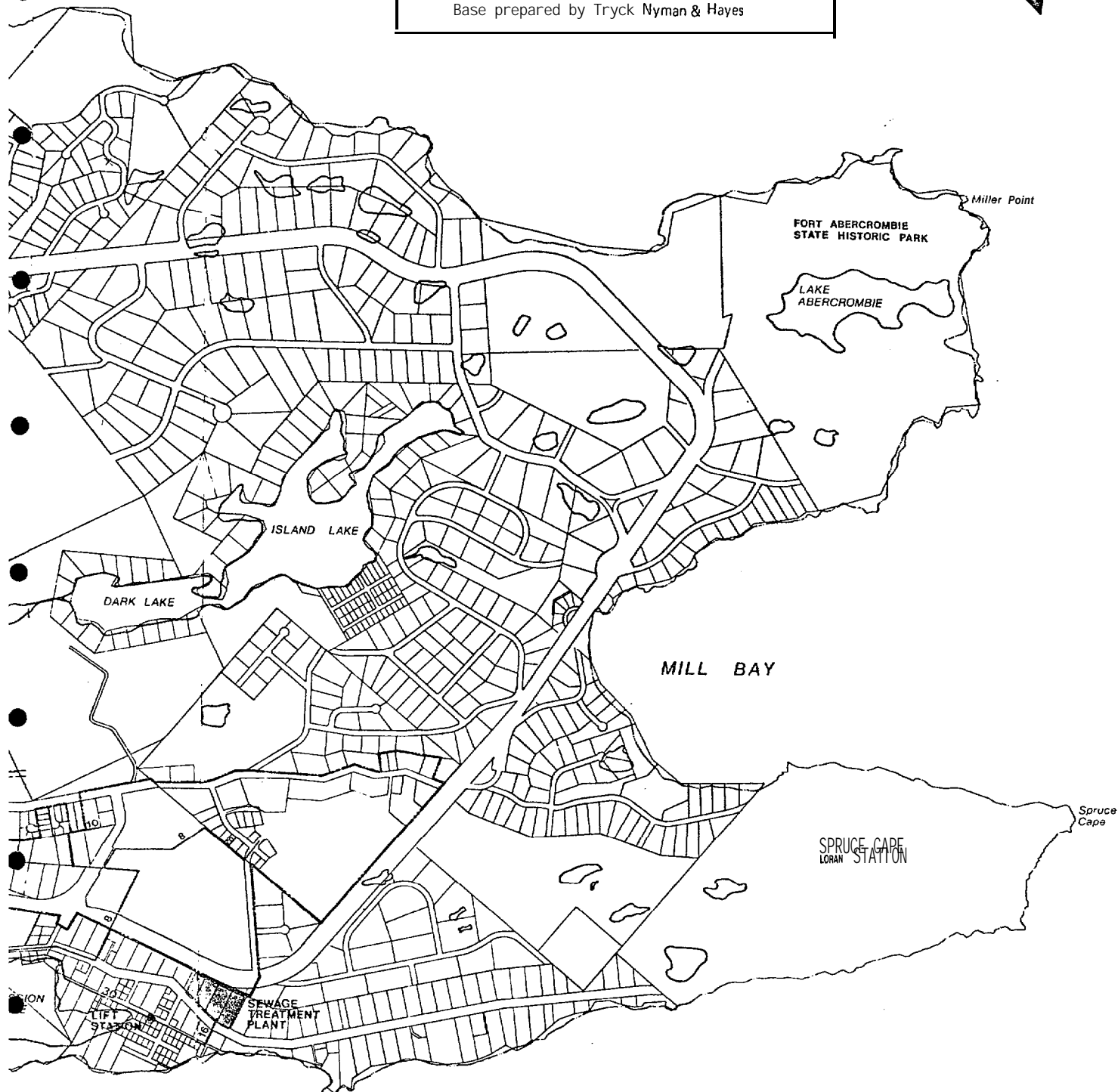
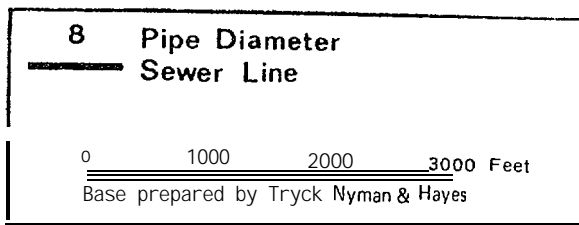
PORATE LIMITS



NEAR ISLAND

KODIAK CITY CORPORATE LIMITS

WOODY



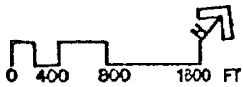
SLAND CHANNEL

FIGURE 24
**EXISTING SEWER
Kodiak City** Metropolitan Area

The preparation of this map was financed in part by funds from the Alaska Coastal Management Program and the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, administered by the Division of Community Planning, Alaska Department of Community and Regional Affairs.






June 1977

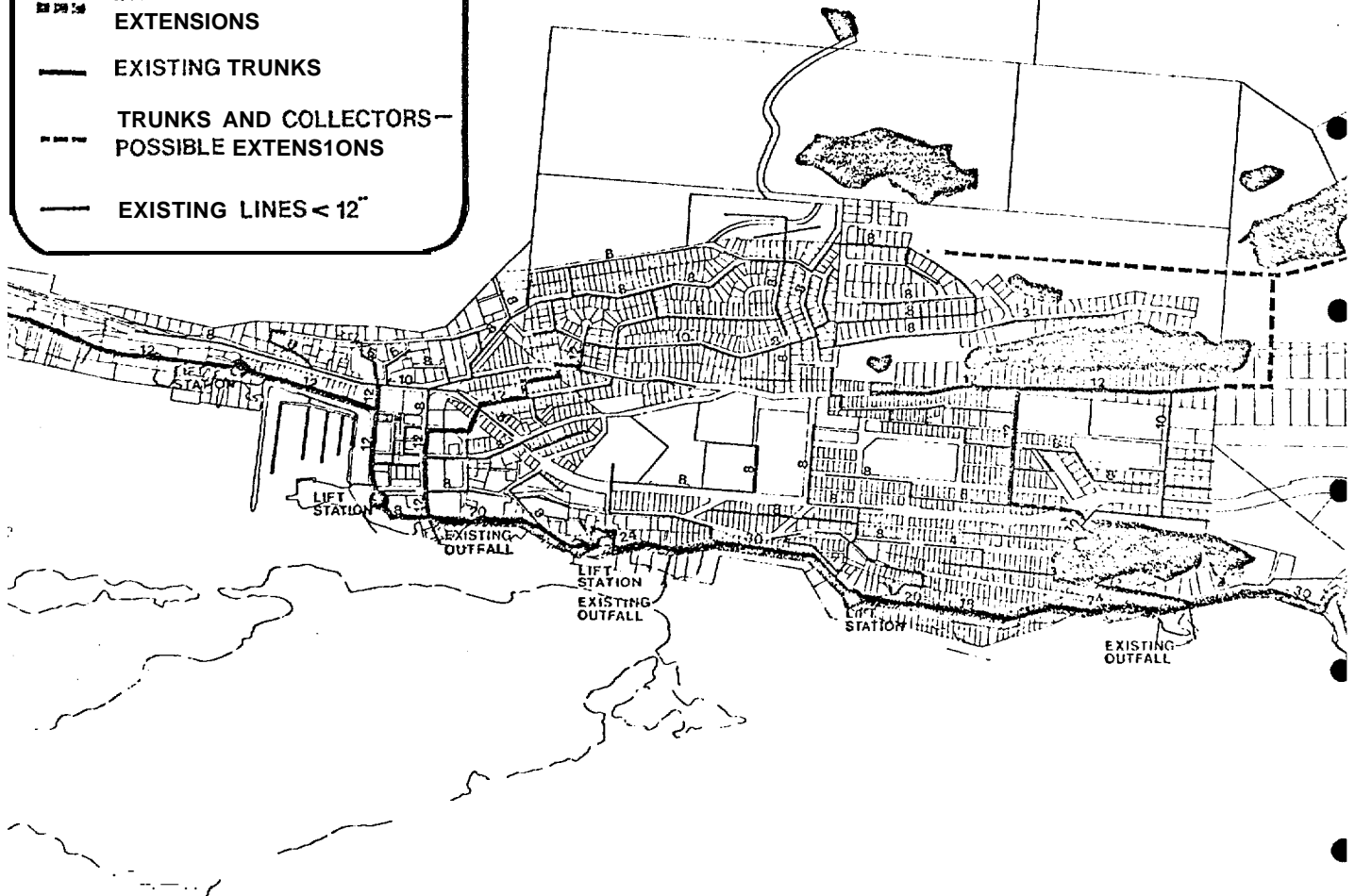
503 Prepared by Simpson Usher Jones Inc. for Kodiak Island Borough



Base prepared by Tryck Hyman & Hayes
and Simpson Usher Jones Inc

LEGEND

-  EXISTING INTERCEPTORS
-  INTERCEPTORS—POSSIBLE EXTENSIONS
-  EXISTING TRUNKS
-  TRUNKS AND COLLECTORS—POSSIBLE EXTENSIONS
-  EXISTING LINES < 12"





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WASTEWATER SYSTEM

July 1978
 Prepared by Kramer Chin & Mayo, Inc. for Kodiak Island Borough
 and the Department of Community and Regional Affairs, State of Alaska

FIGURE

25

Kodiak's sewage is treated at a new facility located just outside town on Mission Lake Road. This plant provides secondary treatment of nonindustrial wastes. Treated wastewater from the plant is dumped into the ocean from three **outfalls** while sludge is hauled to the sanitary landfill. The design of the new plant is based upon a projected service area population of 9,500 for the year 1995. The facility is designed to treat an average of around 8,700 kiloliters (2.3 million gallons) per day. According to the director of Kodiak's public works department, flows through the plant currently average 3,406.5 kiloliters (900,000 gallons) per day and have run as high as 4,920.5 kiloliters (1.3 million gallons) per day. However, many people living beyond the area served by the sewer system, including those on the Coast Guard base, also contribute to flows through the plant.

The Coast Guard Base sewer system serves the entire support complex except for the communications station and the Buskin Lake transmitter site which have septic tanks. The sewer lines, which range from 15.2 to 61 centimeters (6 to 24 inches) in diameter were first installed in the early 1940's by the Navy but substantial improvements have since been made. In 1974 and **1975**, the sanitary and storm sewer systems were segregated so that only sewage would flow into the treatment plant. The secondary treatment plant was added in 1976. Sewage is aerated and the effluent discharged through an outfall into the ocean. According to Coast Guard officials, the existing collector system is more than adequate to meet present and future demand, however, groundwater infiltration into the system increases the flow into the treatment plant.

Electric Power

Kodiak's electric power is provided by the Kodiak Electric Association (KEA), a cooperative corporation. KEA service is provided to the City of Kodiak and its environs and to the Port Lions area. Under a zero exchange agreement with the Coast Guard, KEA serves the State airport and KEA power is transmitted through Coast Guard lines to such outlying areas as Bells Flat. In the summer of 1978, KEA served 2,880 customers, however, this number is expected to increase to 3,000 by the end of 1978. Table 104 shows that from 1970 to 1977 KEA customers increased nearly 30 percent. Of more significance, however, is the increase in kilowatt hour sales which rose almost 84 percent during the same period.

With a total generating capacity of 24,000 kilowatts, KEA has the largest diesel-operated system in the State. However, because of the deteriorated condition of a large portion of the equipment, actual generating capacity is closer to 13,500 kilowatts or about 2.2 kw per capita (taking the population of the Kodiak road-connected area minus the Coast Guard facility). In February 1978, power demands peaked at 10,500 kilowatts, close to the firm capacity of the system. Consequently, the KEA plans to acquire an additional 7,200 kilowatt generator in the near future which would increase the system's capacity to about 3.4 kw per capita. KEA estimates that this will be adequate to meet local electric energy demands through the early 1980's.

TABLE 104
SUMMARY OF KODIAK ELECTRIC ASSOCIATION, INC. OPERATIONS
1970, 1975 AND 1977

	<u>1970</u>	<u>1975</u>	<u>1977</u>
Number of Customers	1,977	2,314	2,583
Kilowatt-Hour Sales	27,548,491	41,105,556	50,558,088
Operating Revenues	\$1,195,550	\$ 2,422,520	\$4,129,803
Operating Expenses	\$ 974,821	\$ 2,310,904	\$ 3,779,331
Net Revenues	\$ 220,729	\$ 111,616	\$ 350,472

Source: Alaska Public Utilities Commission, Consumer Protection Division.

In the long run, however, further expansion of the diesel facility may not be economically feasible. Power costs in Kodiak are already high. A typical residential household will consume somewhere between 800 and 1,000 kilowatts per month excluding heat. In the fall of 1978, this amount of power cost Kodiak households between \$90 to \$109 a month. In Anchorage, where natural gas is the primary source of power, the same amount of power costs between \$25.38 and \$21.26, less than a third that paid by Kodiak residents. Kodiak power rates will undoubtedly increase even further in the future as the cost of fuel continues to rise. This makes alternative power sources such as hydro-electric power increasingly attractive.

KEA is currently studying the feasibility of constructing a hydro-electric facility at Terror Lake 40.2 kilometers (25 miles) southwest of town. The site was originally studied in the 1940's by the Army Corps of Engineers but was rejected because at that time diesel power was more cost efficient. If the Terror Lake project goes forward as projected, it will be capable of producing about 30,000 kilowatts and 175 million kilowatt hours annually which will more than satisfy the entire Island's needs for the foreseeable future.

The Coast Guard Base's power plant supplies electricity for the support complex and for facilities at Buskin Lake and Holiday Beach. Originally constructed in the early 1940's, much of the equipment, especially the diesel powered steam turbines, is old and in need of replacement or repair. Automatic control devices have recently been modernized and the

plant's four boilers are being retubed. Substantial improvements are also being made to the distribution system.

The central power plant has a generating capacity of 4,000 kilowatts. An additional 1,200 kilowatts are available from a remote Army diesel generator, but this is old and unreliable. The plant has a firm capacity of 3,500 kilowatts, consequently with a peaking power of from 3,800 to 4,000 kilowatts, the system is operating close to maximum capacity. The Coast Guard has plans to acquire an additional 2,500 kilowatt diesel generator and should, in the opinion of power plant personnel acquire an additional 2,500 kilowatt capability to meet future needs.

Even with renovation that has taken place and the acquisition of additional generating capacity, the advanced age of existing equipment will make substantial additional work and eventual replacement of the Coast Guard power plant necessary. For this reason, the Coast Guard is extremely supportive of the City's plans to develop the Terror Lake hydro-electric facility. If Terror Lake can provide sufficient power to meet the Coast Guard's needs, it is likely that the Coast Guard would retire its power system and instead purchase power from I(EA

Solid Waste Disposal

The City of Kodiak contracts garbage collection services to a private concern, Kodiak Sanitation. Residential service is provided twice weekly within the City limits and immediately adjacent areas and costs

\$7 a month, Commercial pickup frequency depends upon customer need and cost is based upon dumpster size and service frequency. Sanitation equipment includes a front loader, a rear loader, a late model pickup truck and a tracker. The City of Kodiak rates the service as good.

The sanitary landfill is located about 9.7 kilometers (6 miles) north of town in the Monashka Bay area. It is inadequate from several perspectives. The size is limited and the scarcity of soil necessitates using crushed rock for cover. This coarse material allows rainwater to percolate into the buried waste, thus leaching out pollutants which re-enter surface water courses because drainage is uncontrolled.

In 1976 the Coast Guard, which faces similar problems with its landfill, and the City undertook a joint study to identify possible alternative landfill sites that would satisfy the needs of both parties. Tryck, Nyman, and Hayes identified Swampy Acres as convenient and suitable. However, Swampy Acres land has been declared excess by the federal government and claimed by the Ouzinkie Native Village Corporation so that development of the site as a landfill cannot proceed until the land ownership question is settled. In the meantime, the City continues to dump refuse, including sludge from the treatment plant, at the existing site under a special permit. The Coast Guard is considering both shredding and incineration as a means of decreasing the volume of its refuse and extending the lifetime of its landfill.

Communications

Glacier State Telephone Company, a subsidiary of Continental Telephone, provides telephone service to Kodiak, the surrounding road-connected area, the Coast Guard Base and Port Lions. As of September 1978, the system served a total of 2,800 lines from two exchanges, one at the Coast Guard Base and the other downtown. Using a figure of 2,530 dwelling units (including Coast Guard housing) in the Kodiak urban area, Kodiak currently averages 1.1 telephones per dwelling unit. The present capacity of the system is approximately 3,100 lines and, according to Glacier State personnel, can be easily expanded. The company proposes to extend telephone service to the Native-owned settlement at Chiniak in 1979 and to Bell's Flat in 1980. Telephone service to Woody Island was discontinued in 1977 but will be reinstituted in 1980.

Long distance telephone communications in Kodiak are provided by RCA Alascom through the White Alice Communications System which is owned by the Air Force and leased and operated by RCA. In October 1978, however, long distance communications will be transferred to RCA's earth satellite system. The new system will have a 144 trunk line capability, a substantial increase over that now available.

Kodiak has two private radio stations. KVOK, an AM station, broadcasts with a power of 1,000 watts and has an estimated range of 1,609.3 kilometers (1,000 miles). KMXT, the FM station, broadcasts with a power of 300 watts and has a more limited range of 48.3 kilometers (30 miles).

KOTV, Inc., provides cable television service on two program channels.

In addition, KOTV operates two channels which show local advertising on cards. Subscription costs \$17.51 a month and there is an initial installation fee of approximately \$20.

Local Government Organization

Kodiak was incorporated as a city on September 11, 1940. Today, Kodiak is as a home rule city under Alaska law and has a council-manager form of government where the manager directs the day to day operation of the city with policy direction from the mayor and the council. The council consists of six councilmen and a mayor elected at large.

CITY POWERS

As a home rule city under Alaska law which is within a second class borough, Kodiak has all legislative powers not prohibited by law or charter except for those mandated to or subsequently assumed by the Kodiak Island Borough.

The Kodiak Island Borough is a second class local government unit which takes in an 11,655 square kilometer (4,500 square mile) area encompassing Kodiak Island, Afognak Island and a large number of smaller islands and which, in addition to the City of Kodiak, also includes five second class cities (Akhiok, Larsen Bay, Old Harbor, Ouzinkie and Port Lions), an entity which has applied for development city status (Afognak) plus

several unincorporated settlements. The Borough has three mandatory areawide powers as per AS 29.33. These are assessment and collection of taxes, education, and planning, platting and zoning. In addition to these mandatory powers, the Kodiak Island Borough has assumed areawide health powers and **nonareawide** responsibility on a service district basis for roads (Bells Flat), fire protection (Monashka Bay, Mill Bay, Spruce Cape, Island Lake and the village of Karluk), water (Island Lake) and recreation (all areas of the Borough except for the City of Kodiak). However, some of these responsibilities will be transferred to the City of Kodiak if the proposed annexation of the Kodiak Subdivision, the Mission Road area (including Spruce Cape), Mill Bay and Island Lake areas is not disapproved by the State Legislature in 1979.

The City of Kodiak has assumed a wide range of powers as provided for in Chapter 48 of Title 29 of the Alaska Statutes. However, excluding those provided by the Kodiak Island Borough, several local facilities and services are provided by other units of government or by private companies. Electric power is provided by a consumer cooperative, the Kodiak Electric Association, telephone services are provided by the Glacier State Telephone Company and garbage collection is currently contracted out to a private firm, Kodiak Sanitation, while the Kodiak airport is a State-owned and operated facility.

LOCAL GOVERNMENT FINANCES

Kodiak's most recent audit was reviewed, as were operating revenue sources for the Kodiak Island Borough school district. In addition, data developed by the State Assessor on property valuation, local tax rates and per capita debt were analyzed.

A review of the full value of property, as determined by the State Assessor (Alaska Taxable) within Kodiak's corporate limits and the Kodiak Island Borough boundaries from 1969 through 1977 was undertaken (see Table 105). According to the State Assessor's records, the full value of property in the City of Kodiak increased 221.4 percent during this period, while that for the Borough as a whole rose a slightly lower 189.2 percent. The City accounted for 73 percent of the full value of property in the Borough in 1969 whereas, in 1977, the City's share had risen to 81.2 percent of total property valuation. Growth in the City's property valuation has generally been more rapid since 1973, with most of this growth believed to have been derived from the continued expansion of the area's fishing and fish processing industry which is heavily concentrated within Kodiak's corporate limits.

Under Alaska law, first class and home rule municipalities may levy property taxes of up to 30 mills although this millage rate may be exceeded if it is applied to debt service. In addition, both first and second class municipalities may levy sales taxes of up to 3 percent, while there is no limitation placed on sales tax levies by home rule

TABLE 105

CITY OF KODIAK AND KODIAK ISLAND BOROUGH
COMPARISON OF FULL VALUE DETERMINATION
1969 - 1977

(in \$000's to nearest \$1,000)

	1969	1970	1971	1972	1973	1974	1975	1976	1977
City of Kodiak	\$44,118	\$40,749	\$51,092	\$52,905	\$53,729	\$72,616	\$80,284	\$110,316	\$141,802
Total Kodiak Island Borough	\$60,399	\$57,751	\$70,069	\$75,957	\$75,323	\$96,246	\$112,324	\$145,764	\$174,702

Source: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance.
Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau.
(Annual Report).

municipalities. Cities of any class within organized boroughs may also have higher sales tax rates if overlapping units of government both levy sales taxes.

A review of local and areawide property millage and sales tax rates applicable to Kodiak since the 1972/73 fiscal year (see Table 106) and a comparison of these rates with those of other Alaska municipalities indicates that, given the level of services provided, residents of the City of Kodiak are taxed at a rate which compares favorably with that of most other urban areas in the State. In 1977/78, property tax rates for the City of Kodiak were set at 16.33 mills, the same as for the previous year. Of this assessment, 9.10 mills were remitted to the City and the remainder was retained by the Borough for administration (2 mills) and schools (5.23 mills). For the current fiscal year, the mill rate has been set at 16 mills, with the City share remaining the same but the Borough assessment for schools dropping slightly to 5 mills.

The Kodiak Island Borough does not levy a sales tax. However, a 3 percent sales tax levied by the City of Kodiak is collected by the Borough and remitted to the City. A portion of these revenues is remitted to the Borough by the City in lieu of personal property taxes which are levied throughout the Borough except within Kodiak's corporate boundaries.

Compared with other urban areas of the State, property and sales tax rates in the City of Kodiak are not especially high. Residents of the Anchorage service area, the Juneau service area, the major Kenai Peninsula

TABLE 106

CITY OF KODIAK AND KODIAK ISLAND BOROUGH
PROPERTY AND SALES TAX RATES
1972/73 - 1977/78

	Property Tax (mills)					
	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78
City	8.20	8.60	8.60	8.60	9.10	9.10
Borough Administration	.40	.40	1.62	2.50	2.00	2.00
Borough Schools	<u>4.48</u>	<u>4.48</u>	<u>4.24</u>	<u>3.30</u>	<u>5.23</u>	<u>5.23</u>
<u>TOTAL</u>	<u>13.08</u>	<u>13.48</u>	<u>14.46</u>	<u>14.40</u>	<u>16.33</u>	<u>16.33</u>

	City Sales Tax (percent)					
	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78
Administration	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>
<u>TOTAL</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>

Source: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. "Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

Borough communities and the City of Ketchikan generally paid higher property taxes in 1977 than did Kodiak city residents and some of these communities also paid higher sales taxes.

An analysis of the City of Kodiak's general fund revenues and expenditures for the fiscal year ended June 30, 1977 (see Tables 107 and 108) was undertaken. A very high proportion (close to 80 percent) of Kodiak's general fund revenues is derived from local sources. Total general fund revenues for FY 1977 amounted to \$3,458,977. Of this, by far the greatest share (52 percent) was derived from taxes, with sales taxes alone accounting for 35.8 percent of all general fund revenues, followed by property taxes (15.8 percent) plus a minor amount collected in the form of penalties and interest on delinquent taxes. Aside from taxes, other major sources of general fund revenues for the City of Kodiak in FY 1977 were inter-fund receipts (23 percent of the total) and intergovernmental revenues (12.3 percent).

Although Kodiak's general government revenues are primarily derived from locally generated funds, this is not the case with education services provided by the Kodiak Island Borough. According to figures provided by the Alaska Department of Education (see Table 109), approximately 91 percent of total operating revenue sources for the Borough school system in FY 1977 came from State sources, compared with slightly less than 8 percent from local (i.e. Borough) revenues. In large part, this very heavy State share results from the level of support provided by the State under the foundation program as State law provides that State aid

TABLE 107

GENERAL FUND
STATEMENT OF REVENUES - ESTIMATED AND ACTUAL
CITY OF KODIAK
FOR THE YEAR ENDED JUNE 30, 1977

	Estimated Revenue	Actual Revenue	Actual Over (Under) Estimated
Taxes:			
General property taxes	\$ 546,000	\$ 545,933	\$ (67)
General sales taxes	1,167,000	1,236,962	69,962
Penalty and interest on delinquent taxes	<u>15,919</u>	<u>16,645</u>	<u>726</u>
	<u>\$1,728,919</u>	<u>\$1,799,540</u>	<u>\$ 70,621</u>
Licenses and permits	<u>\$ 21,270</u>	<u>\$ 21,504</u>	<u>\$ 234</u>
Revenue from other governmental agencies:			
Library grant	250	250	
State shared revenues:			
State aid to local governments	189,969	181,072	(8,097)
Fuel tax	6,000	6,433	433
Raw fish tax	38,477	38,478	1
Alcohol beverage licenses	12,488	15,605	3,157
Business licenses	90,000	131,204	41,204
Utility revenue tax	40,000	52,577	12,577
Amusement and gaming device taxes	<u>1,000</u>	<u>350</u>	<u>(650)</u>
	<u>\$ 378,144</u>	<u>\$ 426,769</u>	<u>\$ 48,625</u>
Service charges and sales	<u>\$ 312,570</u>	<u>\$ 327,764</u>	<u>\$ 15,174</u>
Revenue from use of money and property:			
Interest earnings	17,770	35,971	18,201
Rentals	20,840	20,920	80
Royal ties	<u>1,000</u>	<u></u>	<u>(1,000)</u>
	<u>\$ 39,610</u>	<u>\$ 6,891</u>	<u>\$ 17,281</u>
Fines and forfeitures:			
Police department	16,000	23,197	7,197
Library	<u></u>	<u>5,671</u>	<u>5,671</u>
	<u>\$ 16,000</u>	<u>\$ 28,868</u>	<u>\$ 12,868</u>
Contributions:			
Fire Department	<u>\$ 778</u>	<u>\$ 778</u>	<u>\$</u>
Interfund receipts:			
Cargo Pier Revenue Fund:			
Payment in lieu of taxes	76,895	50,055	(26,840)
Service charges	<u>59,030</u>	<u>59,030</u>	<u></u>
Boat Harbor Fund:			
Payment in lieu of taxes	4,550	2,655	(1,895)
Service charges	<u>19,185</u>	<u>30,000</u>	<u>10,815</u>
Water and Sewer "Utility Fund:			
Payment in lieu of taxes	83,142	67,823	(15,319)
Service charges	<u>226,500</u>	<u>233,347</u>	<u>6,847</u>
Federal Revenue Sharing Funds	328,927	328,927	
Capital Project inspection charges	<u>19,727</u>	<u>25,026</u>	<u>5,299</u>
	<u>\$ 817,956</u>	<u>\$ 796,563</u>	<u>\$ (21,093)</u>
	<u>\$3,315,267</u>	<u>\$3,458,977</u>	<u>\$143,710</u>

Source: Arthur Young and Company. August 1977. City of Kodiak,
Financial Statements, Year Ended June 30, 1977 with Report of
Certified Public Accountants. Anchorage.

TABLE 108

GENERAL FUND
STATEMENT OF EXPENDITURES AND ENCUMBRANCES
COMPARED WITH AUTHORIZATIONS
CITY OF KODIAK
FOR THE YEAR ENDED JUNE 30, 1977

	<u>Appropriations</u>	<u>Expenditures and Encumbrances</u>	<u>Unencumbered Balance</u>
General Government:			
Legislative	\$ 11,258	\$ 10,353	\$ 905
Legal	55,000	53,955	1,045
Executive	66,493	39,914	26,579
Clerk	65,506	63,012	2,494
Finance	174,817	163,772	11,045
Total General Government	<u>\$ 373,074</u>	<u>\$ 331,006</u>	<u>\$ 42,068</u>
Public Safety:			
Police Department	\$ 647,433	\$ 618,148	\$ 29,285
Fire Department	329,170	247,969	81,201
Total Public Safety	<u>\$ 976,603</u>	<u>\$ 866,117</u>	<u>\$ 110,486</u>
Public Works:			
City engineer	\$ 122,601	\$ 107,693	\$ 14,908
Administration and buildings	89,694	84,023	5,671
Utilities	146,711	131,658	15,053
Streets and snow removal	241,167	232,607	8,560
Garage	89,248	90,973	(1,725)
Total Public Works	<u>\$ 689,421</u>	<u>\$ 646,954</u>	<u>\$ 42,467</u>
Parks and Recreation	<u>\$ 108,028</u>	<u>\$ 104,257</u>	<u>\$ 3,771</u>
Museum	<u>\$ 14,444</u>	<u>\$ 13,695</u>	<u>\$ 749</u>
Library	<u>\$ 116,306</u>	<u>\$ 114,868</u>	<u>\$ 1,438</u>
Non-Departmental Charges:			
Miscellaneous	\$ 582,370	\$ 582,690	\$ (320)
Debt Service	71,000	139,440	(68,440)
Transfers	384,021	384,021	
Total Non-Departmental Charges	<u>\$1,037,391</u>	<u>\$1,106,151</u>	<u>\$ (68,760)</u>
	<u>\$3,315,267</u>	<u>\$3,183,048</u>	<u>\$ 132,219</u>

Source: Arthur Young and Company. August 1977. City of Kodiak, Financial Statements, Year Ended June 30, 1977 with Report of Certified Public Accountants. Anchorage:

TABLE 09

OPERATING REVENUE SOURCES
KODIAK ISLAND BOROUGH SCHOOL DISTRICT
FY 1976 AND FY 1977

Year	Local		State		Federal		Other		Total
	dollars	%	dollars	%	dollars	%	dollars	%	dollars
1975-76	\$588,758	11.8	\$4,282,249	85.6	\$99,500	2.0	\$30,377	0.6	\$4,999,894
1976-77	\$423,965	7.7	\$4,983,002	91.1	\$59,889	1.1	\$4,630	0.1	\$5,471,486

Source: Alaska Department of Education. 1977. Education in Alaska 1976-1977, Report to the People. Juneau.

under this program shall constitute at least 97 percent of a local school district's "basic need". However, basic need is derived from a State formula for minimum educational requirements and, in practice, most Alaska school districts expend a higher proportion of locally generated funds for basic school support than did the Kodiak Island Borough school district in FY 1977. Many school districts also receive federal revenues under P.O. 874, where funds are allocated depending on the number of children whose parents live or work on federal property. Despite the presence of the Kodiak Coast Guard station, this was only a very very minor source of school district revenue here in FY 1977.

A look at Kodiak's general fund expenditures for the year ended June 30, 1977 indicates that the largest single area of expenditure, accounting for 34.8 percent of the total, was in a category described as non-departmental charges divided among miscellaneous (most of which was taken up by in lieu of tax payments to the Borough but, with insurance and utilities payments also significant), debt service and inter-fund transfers (primarily from the water utility and HUD block grant funds) line items. Other major areas for City expenditures in FY 1977 were public safety (27.2 percent of total general fund expenditures), public works (20.3 percent) and general government (10.4 percent).

A review of Kodiak's overall financial condition indicates that the City's financial position is generally sound. According to the State Assessor's records (see Table 110), the City has a high per capita property valuation compared with most other Alaska communities (for

TABLE 110

INDICATORS OF FINANCIAL CONDITION a/
CITY OF KODIAK, ALASKA
1977

Population <u>b/</u>	4,960	
Full Value Determination	\$141,802,335	
Full Value Per Capita	\$ 28,589	
General Obligation Debt	\$ 4,290,000	
Total Debt <u>c/</u>	\$ 7,776,180	
Per Capita Debt		
General Obligation	\$ 865	
Total	\$ 1,568	
Debt as Percent of Full Value		
General Obligation		3.03%
Total		5.48%

Guidelines for Per Capita Debt

Direct	\$ 618.48	
Overall	\$ 733.93	
Percent of Full Value <u>d/</u>		5.50%

a/ All fiscal data for Kodiak current as of 7/1/77.

b/ Population estimate as of 7/1/77 accepted by the Alaska Department of Community and Regional Affairs for municipal revenue sharing purposes.

c/ Total debt equals Kodiak's G.O. bonded debt plus a pro-rated share (\$3,486,180) of the Kodiak Island Borough's G.O. bonded debt based on the City of Kodiak's accounting for 81.2 percent of the Borough's 1977 full value determination. Not included is \$5,093,000 in City Revenue Bonds outstanding as of 7/1/77.

d/ Median value for selected places of under 10,000 population used by Moody's Investors Services, Inc.

Sources: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance. Alaska Taxable: Municipal Property Assessments and Equalized Full Value Determinations. Juneau. (Annual Report).

Arthur Young & Company. August 24, 1977. City of Kodiak Financial Statements, Year Ended June 30, 1977 With Report of Certified Public Accountants. Anchorage.

Alaska Consultants, Inc. September 1978. City of Yakutat Capital Improvements and Services Program. Anchorage.

example, it is higher than that of Anchorage) and this, together with exceptionally high sales tax yields, has assured Kodiak of a good local tax base. In turn, this has been translated into a relatively low taxation burden on City residents in order to provide a normal complement of local government services.

Although Kodiak's per capita valuation is high compared with that of most other Alaska communities, it does have a relatively high level of bonded indebtedness. As of June 30, 1977, Kodiak had an outstanding general obligation bonded indebtedness of \$4,290,000, accounting for a per capita debt of \$865 or 3.03 percent of total property valuation. However, since Kodiak is within the Kodiak Island Borough and since property in the City is taxed by that areawide unit of local government, Kodiak is also indirectly responsible for a share of the Borough's bonded indebtedness. Using a pro-rated share of the Kodiak Island Borough's general bonded debt based on the City of Kodiak's accounting for 81.2 percent of the Borough's 1977 full value determination, a sizable \$3,486,180 indirect debt has been added to the City's general bonded debt to arrive at a total debt of \$7,776,180. This total debt figure translates into a per capita debt of \$1,568 or 5.48 percent of total property valuation within the community. The dollar amount is well in excess of both the \$795 average for Alaska cities in 1977 and the national median for selected cities of under 10,000 population but, primarily because of Kodiak's superior tax base, is within acceptable ranges in terms of the ratio of debt to property valuation. For a schedule of debt service requirements for Kodiak's direct general bonded debt, see Table 111.

TABLE 111

CITY OF KODIAK
GENERAL BONDED DEBT
SCHEDULE OF FUTURE DEBT SERVICE REQUIREMENTS
JUNE 30, 1977

<u>Fiscal Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total Requirement</u>
1978	\$ 183,000	\$ 277,221	\$ 460,221
1979	194,000	265,970	459,970
1980 "	209,000	253,910	462,910
1981	219,000	240,692	459,692
1982	235,000	226,978	461,978
1983	250,000	212,082	462,082
1984	265,000	195,331	460,331
1985	280,000	177,908	457,908
1986	290,000	59,314	449,314
1987	290,000	40,276	430,276
1988	310,000	21,581	431,581
1989	230,000	02,325	332,325
1990	190,000	89,122	279,122
1991	205,000	76,798	281,798
1992	180,000	64,453	244,453
1993	190,000	52,412	242,412
1994	205,000	39,676	244,676
1995	220,000	25,613	245,613
1996	<u>145,000</u>	<u>10,513</u>	<u>155,513</u>
	<u>\$4,290,000</u>	<u>\$2,732,175</u>	<u>\$7,022,175</u>

Source: Arthur Young and Company. August 1977. City of Kodiak, Financial Statements, Year Ended June 30, 1977 With Report of Certified Public Accountants. Anchorage.

In addition to outstanding general obligation bonds, Kodiak also had a total of \$5,093,000 in revenue bonds outstanding as of June 30, 1977. While these are a long term financial obligation of the City, they are not classed as a debt since their repayment is theoretically covered by incoming revenues.



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